



<div>Client:</div> 	LIFTING PLAN			<div>Contractor:</div> 
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	DG-PIN-480-0000-BNH-PLNHS-000004	CSC:	
				<div>PLAN (PLN)</div> <div>PARSONS</div> <div>AECOM</div>

Excavation for Car Park 'A' and Car Park 'B' and Related Works



Lifting Plan





Issue Record & Revision History:					
Issue date	Rev. #	Status	Prepared by	Reviewed by	Approved by
12-03-2024	00	Code-C	M. Ahmed Bhatti OH&S Manager	Vikram Rattan Project Manager	Shabir Hamadani Projects Director
14-03-2024	01	Code B	Muhammad Shafiq Lifting Supervisor	M. Ahmed Bhatti OH&S Manager	Vikram Rattan Project Manager
27-04-2024	02	Issued for Approval	Muhammad Shafiq Lifting Supervisor	M. Ahmed Bhatti OH&S Manager	Vikram Rattan Project Manager

Approval Records:

Ahmed Bhatti





Vikram Rattan

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Approval & Acceptance





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Organisation	BINYAH	Date	25-04-2024

Approved by			
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Title	Project Manager		
Organisation	BINYAH	Date	27-04-2024

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Acronyms & Abbreviations

Acronym	Expansion
Client	DGCL
Contractor	BINYAH Saudi Real Estate Infrastructure Company
CSC	Construction Supervision Consultant
DGCL	Diriyah Gate Company Limited
FOS	Factor of Safety
GW	Gross weight
ID	Identification
LEEA	Lifting Equipment Engineer Association
LOLER	Lifting Operations and Lifting Equipment Regulations
MBL	Minimum braking (or failure) load
NDT	Non-destructive Testing
PMC	Project Management Consultant
SASO	Saudi Standards Metrology & Quality Organization
(A)SLI	(Automatic) Safe Load Indicator
SWL	Safe Working Load
TPC	Third Party Certificate
WLL	Working Load Limit





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Definition of Terms

Lifting Appliance:	Lifting appliances are the mobile or stationary equipment used to lift loads. These are usually powered by mechanical, electrical, hydraulic, or pneumatic mechanisms, e.g., mobile crane, winch, forklift, man lifts etc.
Lifting equipment:	A generic term used to cover both lifting gear and lifting machines. Lifting equipment shall mean any work equipment for lifting or lowering loads, and includes its attachments used for anchoring, fixing, or supporting it. It includes any lifting accessories that attach the load to the lifting machine in addition to the equipment that carries out the actual lifting function.
Lifting Gear (Lifting Appliances)	Any item used to connect a load to the lifting appliance, but which is not in itself a part of the load or the appliance, such as: Chains and Wire, Chain Slings, Wire Rope Slings and Webbing Slings, Rings, Links, Hooks, Shackles, Eye Bolts, Swivels, Blocks, Snatch Blocks, Beam Clamps and Plate Clamps, Lifting Beams / Spreader Beams, and Man-baskets.
Lifting Tackles	These are the aids required to suspend the load by the lifting appliance. e.g., slings, hooks, eyebolts, baskets etc.
Colour Coding:	A system whereby all lifting equipment is color coded with a designated color. The validity of the colour code is three months and color coded according to the schedule.
Competent person:	A person approved for the particular activity being described.
Dynamic Factor:	The load factor by which the capacity of a crane is determined for its applications.
Factor of Safety (FOS),	Coefficient of Utilization or Working Coefficient. It is a factor that is applied to the MBL to determine the WLL. It varies with the product to take account of the susceptibility to damage and considers the type of stresses the item will meet in normal use.
Inspection:	Any physical activity related to ensuring that an item of lifting equipment, in its entirety and at a given location or environment, meets the specified design and operating standards and is safe to operate or utilize for a specified period. This includes, but is not limited to, activities such as measuring, testing, and recording, checking, analyzing, loading, and charting one or more characteristics of the equipment.
Load:	any material, personnel, or any combination of these that are lifted, lowered, or suspended by the lifting equipment. The weight of the lifting accessories including the hook block shall be considered as part of the load being lifted.
Minimum Breaking (or Failure) Load (MBL):	The minimum-breaking load is the calculated load at which a sample of the item will break or fail.
Periodic Inspection:	The minimum specified period between one inspection and a repeat or next inspection
Safe Working Load (SWL):	The maximum load, as certified, that an item of lifting equipment may raise, lower, or suspend under particular service conditions. It is the SWL that is marked on the item and that appears on any examination report or test records. Standard document, established by consensus and approved, that provides, for common and repeated use, rules, conditions or requirements, recommended practices, procedures, guidelines, specifications, philosophies, and datasheets, aimed at the achievement of the optimum degree of order in a given context.
Third Party Certification:	Any activity related to lifting equipment where it is necessary to obtain a certificate, signed by a qualified, independent body (SASO approved) possessing the necessary competence, professionalism and expertise recognized by governments and international institutions worldwide in both legislative or non-legislative environments,

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	having professional liability and indemnity or insurance issued for the purpose of certification.
Working Load Limit (WLL):	The maximum load (as certified based on the design and mechanical properties of the item) that an item of lifting equipment is designed to sustain, i.e. to raise, lower or suspend incorporating an appropriate FOS.

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1. Background Information

1.1. Introduction

Saudi Real Estate Infrastructure Co, Binyah, is contracted to commence Excavation & Disposal of Car Park 'A' and Car Park 'B' and related works at Diriyah Gate. This safe lifting plan for the project has been produced to comply with DGCL's Cranes, Rigging, and Lifting Operations procedure and minimum requirements & supporting forms as well as relevant legal & contractual procedures and obligations.

1.2. Purpose

This safe lifting procedure shall serve as a guide to implement and verify the standard safe working practices to protect all individuals from the hazards of lifting activities.

This procedure applies to all Binyah employees & subcontractors at the DGCL site who perform or are involved with lifting operations. **The project team shall ensure that the contents of this procedure are followed for all routine & non-routine lifting operations**

The procedure sets out the mandatory requirements and recommendations for the safe utilization of all lifting equipment operating on DGCL premises. Further, it shall describe the experience, qualification, and training requirements for lifting equipment personnel, maintenance, inspection, testing, critical lift operation, organizational setup and quality systems for safe use of lifting equipment etc.

This lifting plan shall be reviewed periodically (not later than 06 months) and/or immediately after any changes, any instructions received from DGCL/ PMC / CSC, after inclement weather, and any legislation changes etc,





1.3. Scope of Lifting Work at Project

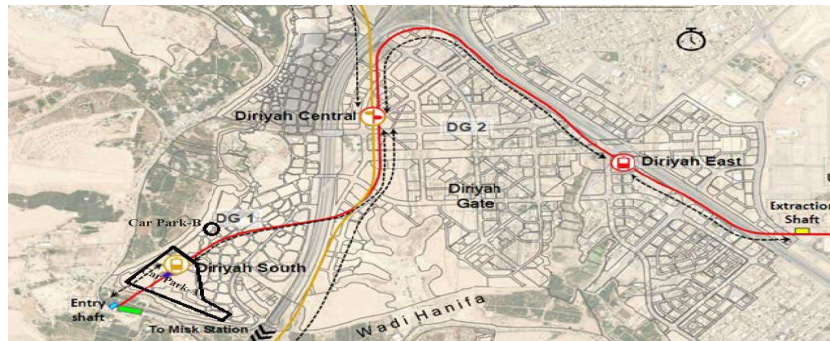
Project which will typically involve occasional lifting, mainly associated with handling of materials and facilities. Key activities are listed below:

- Lifting, shifting, and placement of site offices & welfare facilities
- Lifting, shifting, and placement of materials, Gensets, furniture etc.
- Lifting, shifting, and placement of Jersey Barriers
- Emergency Recovery of personnel / equipment / vehicles from deep excavation

Following equipment will be employed for lifting activities (using approved machinery)

- All terrain Mobile Cranes (25, 50, 70, 100 Tonnes etc.)
- Boom Trucks
- Forklifts
- Telehandler

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Location of Car Parks A & B





1.6. Contractor Binyah Details

Client	Diriyah Gate Company Limited (DGCL)
Contract No.	DD-2022-363.2
Company:	Saudi Real Estate Infrastructure CO. BINYAH
Address:	P.O. BOX 2567 RIYADH 12244 , Kingdom of Saudi Arabia
Tel:	4190728
Commercial Registration no.	1010469561
Website	www.Binyah.com.sa
Executive	Fahad Almesfir Chief Executive Officer (CEO) falmesfir@Binyah.com.sa

1.7. Normal Project Working Hours

Saturday to Thursday	10 Hours Daily
Friday	Public Holiday

Note: Any work outside normal working hours (Extended / Night / Holiday) shall be effectively planned and a relevant DGCL permit shall be secured well in advance, while satisfying applicable PTW / checklist OH&S requirements.

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2. Lifting Operation

The use of cranes to lift and move heavy objects is a crucial and common activity in construction. Lifting operations on the project will involve occasional / non-routine lifting activities such as during mobilization (and demobilization) of facilities and resources, and in certain special instances including emergency scenarios. All such activities are high-risk operations that would involve lifting equipment and thus should be carefully planned and carried out by meeting safe system of works and relevant procedures.





Binyah understands safe cranes, rigging, and lifting operation requirements are crucial in safeguarding project personnel and properties from harm and damage and thus essentially require effective planning of basic/repetitive/critical lifts while fulfilling all Safe Work Procedures & Lifting Procedure / Permit Requirements.

It is, therefore, priority to select and procure safe lifting equipment (including gear) suitable for the job, while meeting DGCL various requirements as stipulated in **DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009 Revision 03 Cranes Rigging and Lifting Operations Procedure- March 2024**. The lifting crew (including operators, riggers, signalers etc.) are also required to be competent, trained, knowledge, and skilled for the required tasks. Furthermore, the roles and responsibilities of execution, supervisory, and OH&S teams need to be well-established before embarking on this critical operation, following all contractual and legal requirements.

Core Lifting Operation Requirements

Lifts utilizing cranes, hoists, or other mechanical lifting devices will not commence unless:

- An assessment of the lift has been completed and the lift method and equipment has been determined by a competent person
- A task-specific Method Statement & Risk Assessment has been prepared and approved
- A relevant lifting permit is issued and approved
- Operators of powered, lifting devices are trained and certified for that equipment
- Rigging of the load is carried out by a competent person
- Lifting devices and equipment has been certified for use within the three months (at a maximum)
- Load does not exceed dynamic and/or static capacities of the lifting equipment
- Any safety devices installed on lifting equipment are operational
- All lifting devices and equipment have been visually examined before each lift by a competent person
- Ensuring no one is standing or working below the ,suspended load.





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2.1. Lifting Hazards & Control Measures

Hazards & Risks	Control Measures
<ul style="list-style-type: none"> • Unavailability of approved MSRA / Lifting Permit & Ill-informed selection of crane unsuitable to work requirement [Weight/Radius/Boom etc. clearance] – resulting in Personal Injury and Risk of damage to the property and equipment • Mobile crane and its operator are not approved or have no valid certification / SAG license – resulting in failure of lifting equipment • Poor set-up of Mobile crane on an uneven and loose ground surface or close to water surface – resulting in failure of lifting equipment • Unauthorized workers are standing, passing, or working directly below the suspended loads and Unsafe barriers handling – resulting in Personal Injury and Risk of damage to the property and equipment • Mobile crane or its component working outside defined exclusion zone, struck by, and unsafe placement of facilities – resulting in Personal Injury and Risk of damage to the property and equipment 	<ol style="list-style-type: none"> 1. MSRA / Lifting permit should be made and approved prior to start the work 2. Appropriate number / capacity of the equipment should be mobilized as per the approved MSRA / Lifting Plan 3. Heavy equipment selection should be in line with DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009 Rev 03 Cranes Rigging and Lifting Operations Procedure and shall comply all requirements 4. Operator conduct pre-inspection of the equipment and checking of documents 5. Operator on the site shall have a valid SAG License 6. Ground must be stable, levelled, firm and compacted. 7. Out rigger must be fully extended on a stable and flat even ground. 8. Nobody shall pass, walk, or stay under the suspended load 9. Lifting radius of mobile crane shall be isolated. Provide warning signs. 10. The person(s) handling the barriers on trailer and ground MUST always maintain safe distance 11. Must use a tag line to control the suspended load since controlling it inside water is not an option 12. Mobile crane / trailer should only operate inside the allowed work zone. 13. Working radius shall be thoroughly checked and planned to avoid unsafe work during barriers placement 14. All welfare facilities shall be placed on firm, solid curb stones to distribute the load evenly. The area of placement shall be prepared and maintained before shifting the containers / portacabins etc. 15. Proper access should be there for all facilities

2.2. Safe Work Procedure for Lifting & Rigging Operation

- A lifting Procedure / Plan is approved and Lifting Permit for the specific activity has been secured.
- Approved MSRA Copy is available.
- Approved Lifting Equipment & Gear is available meeting inspection and approval requirements (Selection of Crane according to nature and characteristics of the job)
- Valid TUVs for Equipment / Operator / Rigger are available and suitable for the intended job.
- Lifting Permit and Load Chart Calculations are correct.
- STARRT Card Briefing / Toolbox Meeting has been completed (Other than mandatory OH&S induction)
- Daily Lifting Equipment & Gear Inspection with Checklist has been performed by the operator and supervisor.

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- Placement of crane in a safe manner and in line with approved lifting plan /permit
- Exclusion Zones have been established and lifting is performed meeting all requirements stipulated in approved MSRA.
- Strict compliance of High-Vis PPEs for entire lifting crew. Use PPEs appropriate today / night work





Precautions:

- Ground Condition must be stable, firm, even, backfilled, and away from Excavation and Slope
- Height clearance is considered. Cranes might hit overhead structures and overhead power lines, resulting in Electrocution/Death and Property Damage
- Lifting area is barricaded (hard / soft Barricade of work area, and no unauthorized entry into exclusion zone
- Outrigger pads must be suitable and placed. Cranes' outriggers must be fully extended and placed away from excavations / depressions.
- Tag lines should be attached to the swinging load to help it land in the right place.
- Shift in center of gravity should be considered for all loads by the competent lifting supervisor/rigger.
- Most bulky loads are to be lifted with the help of spreader beam. It should be third-party certified and inspected for safe operation. The rigging attachments should be safe and in line with the approved liftin plan.
- Suspend all lifting operations if wind speed exceeds 32 km/h.

2.3. DGCL Requirements

- *It's prohibited to use any CHINESE BRAND crane in DGDA sites or facilities.*
- *The operating life of any crane MUST not Exceed 10 years in order to be approved in DGDA projects.*
- *Cranes and lifting devices shall be designed, constructed, and tested in accordance with the international and national standards applicable to KSA. (e.g., ASME, SASO).*

Source: DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009 Revision 02 Cranes Rigging and Lifting Operations Procedure-2023

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3. Roles, Responsibilities, Competency & Training Requirements

3.1. Role & Responsibilities of Competent Person (Lifting Engineer)

- Be responsible for managing planned / unplanned lifting operations.
- Plan, organize, supervise, and liaise closely with sub-contractors and logistics / constructions teams on all ongoing lifting activities.
- Conduct routine checks and inspections of works on site to ensure compliance with authorities' and DGCL's requirements.
- Review project safety (e.g. lifting plans, etc.)
- Ensuring all relevant lifting equipment performance, certification and condition data are recorded accurately.
- Defining standards for and participating in the monitoring and assessment of lifting operations
- Contributing to conjunction with OH&S to the site's safety effectiveness through recommending improvements in procedures and work practices.
- Promote a continuous improvement culture within the team.
- Adhere to the Binyah's Health, Safety & Environment policies, procedures, and standards.
- Providing technical advice on matters pertaining to lifting operations deviations or non-compliance
- Providing support to maintenance teams as necessary in the detail and execution of preventative and corrective maintenance activities on all lifting equipment

3.2. Role & Responsibilities of Competent Person (Lifting Supervisor)

- Organization and control of all lifting operations.
- Assessment of the lifting operation to provide such planning, selection of cranes, lifting gear and equipment, instruction, and supervision as is necessary for the task to be undertaken safely.
- Prepare and request for appropriate lifting permit and attach all supporting documents (MSRA / ERP copy), training and competency certificates, drawing and sketches etc.
- Ensure that accurate weights, radius, heights etc. are established.
- Ensure that the ground is made suitable for taking up the loads to be imposed.
- Ensure that suitable access is provided to the site and any area required for placement of the crane.
- All hazards such as services (gas, water, electricity etc.) above or below ground are identified and suitable precautions are taken.
- Ensure that adequate inspection and maintenance of the equipment has been carried out.
- Ensure that there is an effective procedure for reporting defects and incidents and taking any necessary corrective action.





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3.3. Role & Responsibilities of Lifting Equipment (Crane) Operator

- Correct operation of the crane as per manufacturer's instructions. The crane operator shall ensure that the crane is roadworthy, functions correctly and is properly maintained each and every time that the crane is operated.
- Setting the crane level prior to lifting and checking that it remains level throughout the operation.
- Establishing which signaling system is to be used and following instructions from only one signaler at a time.
- Stopping operations if given any instructions that would take the crane outside its permitted duties.
- Stopping operations if the signaler is not within his direct sight.
- Stopping operations if visibility is not clear.
- Informing the supervisor of any problems that arise which would affect the lifting operation.
- Recording the daily checks, maintenance and comments relating to the crane's operation in the logbook for the crane.
- The crane operator shall know the weight of the load prior to start of lift. No load is to be lifted where the weight is unknown.
- Shall not leave the crane unattended while a load is suspended from the hook.
- Where lifting operations involve the use of lifting equipment in proximity to overhead power lines, it is the responsibility of the crane operator to ensure that it is safe to do so. The crane operator shall ensure that the equipment is operated in such a manner that no item of lifting equipment is within 20 meters proximity of any live overhead power line.
- Put the operation on halt if riggers are not present or are exposed to any potential hazard.
- It is forbidden to use mobile phones inside the crane cabin.

3.4. Role & Responsibilities of Forklift / Telehandler Operator

- Forklift / Telehandler operators shall be responsible for ensuring that the equipment is functioning correctly and properly maintained each and every time it is operated.
- Stop the lifting operation if anything out of the ordinary occurs and check that it is safe to continue operation.
- When lifting a load, raise 10 cm stop the load just clear of the ground, to check security and balance of the load, and check the function of the lifting brakes.
- Observe and note other activities within the load operating area to avoid the development of any unforeseen hazards.
- Warn other personnel in the area of the movement of the load.
- Check that the area around the load to be lifted is clear and that the load is not attached to transportation cradle or adjacent equipment.
- Be familiar with the lifting capabilities of the Forklift / Telehandler
- Check that the Forklift / Telehandler being used is in good condition and certified for use.
- Ensure that no load is to be lifted where the weight is not stated or unknown.
- Ensure that all equipment controls function correctly.
- Ensure that the load does not block the vision of Forklift / Telehandler operation. If unavoidable, safety-watch to be provided during the period of load lifts and transfers.
- Ensure that the light around the Forklift / Telehandler and rotating siren are functioning correctly.

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3.5. Classification of Riggers





Rigger 3 (Basic Lift)	Rig up to 10 Tones , whilst continuing to learn and adapt to heavier Lifts
Rigger 2 (Standard Lift)	Rig up to 40 Tones , whilst continuing to learn and adapt to heavier Lifts
Rigger 1 (Complex Lift)	Rig all loads , including critical lifts (Preparing & approval)

3.5.1. Duties & Responsibilities of Riggers

It is the rigger's responsibility to ensure that the lifting tackle is functioning correctly and is safe to use, properly maintained, and all maintenance activities are registered and documented. This does not in any way alleviate the responsibility of the management of the lifting gear, in ensuring that it meets the requirements of this procedure and the appropriate DGCL standards & requirements.





All riggers shall:

- Ensure that both the rigger and crane operator are familiar with the method of signaling to be used
- Ensure that no load is to be lifted where the weight is not stated or unknown
- Check that the lifting equipment being used is in good condition, certified for use, correctly color coded, and of sufficient capacity to carry out the lift
- Ensure taglines are always attached to loads that are likely to swing
- Be aware of any obstructions within the crane radius and working area
- Check that the area around the load to be lifted is clear and that the load is not attached to the floor, transportation cradle or adjacent equipment
- Ensure that crane hook is position in the above center of each load before sending any signal to the crane operator
- Ensure that no personnel standing between two loads, especially if one load will be lifted and repositioned
- Ensure that escape route is identified
- Check that no personnel are below the load whilst lifting is in progress
- Ensure all hands are free of lifting tackle and stand clear before the load strain is taken
- Clearly indicate to the crane operator where the load has to be moved to or placed and, where possible, he shall follow each load to its destination
- Warn other personnel in the area of the movement of the load
- Observe and note other activities within the crane's operating area to avoid the development of any unforeseen hazards
- When lifting a load, stop hoisting when load reach 10 cm. above the ground to check security and balance of the load, and check the proper function of the crane's hoist brakes
- Stop the lifting operation if anything out of the ordinary occurs and check that it is safe to continue the operation
- Solely direct the lifting and loading activities and operations

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3.6. Qualifications and Competencies as required by DGCL

Competent Person (Lifting Supervisor)	<p><i>Competent Crane operators must be appointed in line with the following requirements:</i></p> <ul style="list-style-type: none"> • Possess the legal requirements/documents to operate such an equipment: <ul style="list-style-type: none"> ○ For Crane Operators: They must have: <ul style="list-style-type: none"> ▪ Valid Saudi Government License for Heavy Equipment's and a copy of the printout of the license which detailing the type of the equipment shall be available. ▪ They must have a valid SASO Approved Crane Operators certificate for the same type and size of the crane they are operating. ○ For Mobile Heavy equipment: The operator must have: <ul style="list-style-type: none"> ▪ Valid Saudi Government License for Heavy Equipment's and a copy of the printout of the license which detailing the type of the equipment shall be available. ▪ They must have valid SASO Approved Heavy Equipment Operators certificate for the same type of the equipment. • Must be or over 21 years of age, authorized and competent to operate the crane. • Physically fit and physically capable of operating the crane safely. • Understand the duties of the slinger and banksmen with full understanding of the signals used. • Able to read and understand the Crane Load Chart. • Able to judge distances, height, and clearances, and not be color blind. • Banksmen/riggers must be trained and competent for the task, specifically they will: <ul style="list-style-type: none"> ○ Be trained to determine the weight, center of gravity and characteristics of a load. ○ Able to inspect and determine whether a wire rope sling or other piece of lifting equipment is damaged or not fit for purpose. ○ Be familiar with the different and correct slinging techniques. ○ Know the correct hand signals.
Crane Operator	<ul style="list-style-type: none"> • Operators of cranes shall hold a valid certification or license for the equipment operation (Crane and Hoist Equipment) issued by a SASO approved accredited testing organization, a government licensing entity, as mentioned herein earlier. <ul style="list-style-type: none"> ○ Requirements for obtaining the applicable jurisdiction's license or certification shall include assessment, by written and practical tests, of the operator's ability and knowledge, including, but not limited to: <ul style="list-style-type: none"> ▪ The controls and operational/performance characteristics. ▪ Use of, and the ability to calculate (manually or with a calculator), load/capacity information on a variety of configurations of the equipment. ▪ Technical knowledge applicable to: <ul style="list-style-type: none"> • The suitability of the supporting ground and surface to handle expected loads. • Site hazards. • Technical knowledge applicable to the specific type of equipment the individual will operate. • Ability to recognize, from visual and audible observation, the items listed in shift inspection. • Operational and maneuvering skills. • Application of load chart information. • Application of safe shut-down and securing procedures.

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	<ul style="list-style-type: none"> ○ Licensing or certification shall be renewed as specified by the applicable Saudi regulation body (i.e., MOI) and licensing/certifying body. • For critical lifts, only crane operators certified to the appropriate jurisdictional standards and proven competent in the operation of the specific crane used in the lift may operate the crane. • The crane operator shall be qualified to use and be familiar with the hoisting equipment to be operated; otherwise, sufficient time and instruction to adequately inspect and test the equipment shall be given. • The operator shall be able to perform and document, in a crane logbook, daily pre-operational maintenance checks to confirm the equipment can safely handle all loads. Crane operators shall have a general working knowledge of relevant safety codes and standards applicable to the operation of the given crane.
Rigger / Signaler / Slinger	<ul style="list-style-type: none"> • The manager (or his/her designer) of the signal person shall confirm that each signal person meets the qualification requirements prior to giving any signals. This requirement will be met by using either of the following options: <ul style="list-style-type: none"> ○ Option 1 – Third party qualified evaluator: The signal person has documentation a third-party qualified evaluator showing that the signal person meets the Qualification Requirements. ○ Option 2 – Manager's (or his/her designee's) qualified evaluator: The manager that the individual meets the Qualification Requirements and provides documentation of that determination. An assessment by a manager's (or his/her designee's) qualified evaluator under this option is not portable – other managers (or their designers) are not permitted to use it to meet the requirements of this section. ○ The documentation for whichever option is used will be available while the signal person is employed by the manager (or his/her designer). • If subsequent actions by the signal person indicate that the individual may not meet the Qualification Requirements, the manager (or his/her designee) shall not allow the individual to continue working as a signal person until retraining is provided and a reassessment is conducted, which confirms that the individual meets the • Qualification Requirements. <ul style="list-style-type: none"> ○ Know and understand the type of signals used. If hand signals are used, the signal person shall know and understand the Standard Method for hand signals. ○ Be competent in the application of the type of signals used. ○ Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads, and boom deflection from hoisting loads. ○ Demonstrate that he/she meets the requirements of this section through a verbal or written test and through a practical test. ○ Be familiar with working around Heavy equipment. ○ Unique or different PPE that defines a slinger.

Source: DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009 Revision 03 Cranes Rigging and Lifting Operations Procedure- March 2024

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4. Lifting Equipment Requirements & Inspection / Approval Criteria





4.1. Requirements for Cranes

All cranes shall have the following:

- No crane shall be utilized for any operation other than that for which it was designed.
- A suitable operating cab that adequately protects the crane operator and controls from the elements (weather), is adequately cooled (if possible) and ventilated, and provides a clear and unrestricted view of all operations associated with the crane.
- Where the design of the crane is intended for SWL loads of greater than five tonnes, a calibrated automatic SWL Indicator shall be fitted, and a legible metric crane capacity chart prominently displayed.
- Audible and visual alarm fitted on cranes while travelling forward or reversing.
- Crane hooks (for mobile cranes) secured to ensure no swinging occurs in transit.
- A hoisting limit device / Anti-two block that, when actuated, stops the hoisting motion, and applies the brake on the hoisting winch automatically.
- A luffing limit device that, when actuated, stops the luffing motion, and applies the brake on the luffing winch automatically, and that is so arranged as to prevent bypassing of this device in the normal operation of the crane.
- Outrigger pads of 1mX1m wide metal or sound base shall accompany the mobile crane.
- Operating levers and switches that are clearly identified and marked. All markings shall be in English or internationally agreed symbols.
- Engine stop systems that operate in a manner such that the engine comes to rest with minimum delay.
- Check valves shall be fitted to all hydraulic cylinders to prevent cylinder movement in the event of hose failure.
- An emergency stop function with manual re-set capability within crane operator reach.
- Adequate fire extinguishers of approved size and type.
- The SWL of the hook block prominently marked and highlighted on the hook.
- Maintenance and repair logbook for each crane is to be maintained.

4.2. Inspection Criteria (of Lifting Equipment) by DGCL

Crane Inspection
<ul style="list-style-type: none"> ○ Each Crane must be tested and thoroughly examined by a SASO approved third party on first arrival and at THREE months' intervals thereafter, or as per Client requirements. ○ Prior to using any cranes, and at least every THREE months thereafter, an Initial/Annual Inspection and a Crane Load Test shall be conducted on such equipment. ○ Copies of all initial and Quarterly crane inspection Reports shall always be kept in a file in the Crane cabin. ○ Identified deficiencies shall be corrected and inspected by a Professional third party licensed and approved by SASO.





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- Cranes involved in misadventure (i.e., shock load, electrical contact, etc.) that results in suspicion of potential or actual damage shall undergo a comprehensive inspection by a Professional third party licensed and approved by SASO and to be verified as safe for operation prior to use.
- Cranes that have been idle for 3 months or more shall be inspected by a Professional third party licensed and approved by SASO.
- No crane shall be put into use before an inspection has been completed and absence of defects or hazards has been verified.
- The SASO approved third party is required to stick an Inspection Sticker on the tested equipment which must contain at least, the following."
 - Date of inspection
 - Inspector Name and signature
 - Third party Name, Logo, and Stamp
 - Next Inspection date, as required herein this procedure

Source: DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009 Revision 03 Cranes Rigging and Lifting Operations Procedure- March 2024

4.3. Approved Third Party Certification Authorities by SASO / DGCL





No.	Name	Address	Contact Details
1	National Inspection & Technical Testing Co.	Nozha District, Ali Bin Abi Talib St., Jareer Plaza-Office No.101, P.O. BOX 3998, Dammam 31481, KSA	Email: info@fahsstuv.com TEL: +966138408333
2	TUV Rheinland Arabia LLC	P.O Box:11488, Jeddah 21453 Kingdom of Saudi Arabia	Email: Ashraf.Samir@sa.tuv.com TEL: +966593672244
3	Bureau Veritas Co. Branch	4492 Imam Abdullah Bin Saud Bin AbdulAziz Road, Signature Building, 1st Floor-Office 21-27, Al Shudada District, Riaydh 13241, KSA	Email: wassim.estephan@bureauveritas.com TEL: +966 (11) 834 0360
4	JAWDA ALMAEER	6903,WADI ABU ARAB-ALWADI, RIYADH, KSA	Email: info@jawdaglobal.com TEL: +966554778993, +966500116190
5	Astron Arabia Company Limited	شارع طارق بن زياد، 3241، حي الراكة الجنوبية، الخبر 7758	Email: astron-saudi@astrongroup.com Tel: +966 13 830 4714, +966503817779
6	TUV SUD MIDDLE EAST LLC	Al Salaam Complex, 1st Floor, Office No#210 King Fahd Road, Riyadh P.O.Box:12363,Riyadh, Saudi Arabia	Tel: +9714 4473113 Email: Salah.safah@tuvsud.com
7	شركة الفنيون المتخصصون لفحص المعدات	حي الشعلة، مدينة، 34264، الدمام، المملكة العربية السعودية	Email: m.samir@testcosa.com TEL: +966598683583
8	UNITED TEAM FOR INSPECTION CO.	Abdul Wahab bin abi Alqasim Rd. –	Email: talib@unitedteamco.com TEL: +966 59777760

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		Alaziziyah Dis. - Riyadh	
9	Tove Leeds Wanco Certification and Inspection	First floor 6507 Umm al Hammam Riyadh 12321, Saudi Arabia	Email: Shahid.javed@toveleeds.com Phone: +966 56 353 9517
10	Witty For Inspection	8417 Umar Ibn al Khattab - Al Faisaliyah District Dammam 32272 - 4008, Saudi Arabia	Email: info@wittyinspection.com Telephone: +966505800095
11	Advanced Inspection Est	5th floor in, Dr. shikah alard building, prince mohammed ibn fahad street, DAMMAM, SAUDI ARABIA	Email: Raida2001@gmail.com Phone: +966504815297
12	Team Safety Consultants and Training L.L.C	P.O. Box: 29254, AlFahim Building, Musaffah 4, Abu Dhabi, UAE	Email: ceo@smzcon.com TEL: +966 55 914 4334
13	Mueayana Inspection Company	Kingdom of Saudi Arabia_ Riyadh City_ Al-Hamra District 3072_ Ibrahim Al-Harbi Street 6163	Phone: +966112279070 Email: PR@Mueayana.com
14	QTC, Quality Techno Certifications	6511 UTMAN BN AFFAN ROAD , ALNAJIS , RIYADH , KSA	Phone: +966114030301 Email: inspection@qtc.sa
15	الشركة العربية للفحص والمعاينة	جدة الرويس شارع المعادي مركز المتبولي بلازا الدور الرابع مكتب 401	Phone: +971545831133 Email: Admin@AdmiralSafetyConsultants.com

4.4. OH&S Requirements and Checks

- No one shall stand under the suspended load.
- The load shall not be left suspended and unattended. Crane operator or the rigger shall not leave the area without substitute.
- The operator shall not leave the controls while the personnel or load is suspended.
- All cranes utilized for handling loads shall have a legible metric load chart that has been calculated in accordance with the dynamic factor (load factor) or as recommended by the crane manufacturer, permanently fixed in the crane operator's cabin.
- No person shall be transported by a crane
- No passengers are allowed to ride on the body of the crane
- When a crane is being operated, hand signal communication between the rigger and the crane operator shall be conducted in accordance with the standard hand signal requirements, except that voice communication, by radio or telephone between those persons, is permitted as an alternative.
- No crane shall be used beyond its TPC
- Cranes shall not be used to transport loads unless they are specifically designed for the purpose.
- No crane is allowed to lift any weights above the SWL marked up as per the capacity chart.
- No crane is allowed to pull or tow/drag weights. No crane is allowed to enter any hazardous zone without permission and verification of zone requirement.
- Cranes shall not be utilized when the wind speed is more than 32 km/h or where due to the nature of the load it becomes unmanageable due to wind acting on the load.

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- Cranes shall not be utilized to carry out any lifting operations after sunset. Any lifting operations that have to be carried out after sunset or during periods of poor visibility, shall be deemed as critical lift and proceeded with relevant full approval. The operational area shall be adequately illuminated to ensure all involved persons and equipment are clearly visible when carrying out the lift. In addition, the lifting equipment shall have its own means of illumination
- Ground condition shall be assessed before deploying the crane outriggers. Crane pads shall be used to help disperse weight evenly under each of the cranes outriggers
- Cranes not in regular use shall be subjected to special checks as per the manufacturer's instructions/applicable standard, prior to being used.
- Drop area shall be barricaded using tapes or other means in areas where operation or maintenance activities are in progress.
- Outriggers shall be fully extended.
- The designated rigger shall give signals for crane operations. He shall wear a high-vis jacket and orange helmet for easy visibility.
- Load chart shall be available in the crane operator's cabin.
- Next due date for inspection shall be painted/tagged on the crane.
- Guide rope (tag lines) shall be used to control swinging.
- Communication equipment (Radios) shall be used when the rigger cannot give clear signals to the operator due to obstructions, height, or distance and when the crane operator can't see the load.
- Critical lifting operations must be planned with extreme care and written procedures should be prepared.
- Fly jib shall not be used unless it is certified. Moving along the road with fly jib shall be minimized and with prior approval of area Safety Engineer.
- Multiple cranes lifting operations must be planned with extreme care and written procedure shall be prepared for each lifting. Wire ropes shall remain vertical. Each crane shall be assumed to have 25% less than the rated SWL (Safe Working Load).
- Record all cranes and lifting equipment at site using **DD-SWD-SW-SWD-000-000-DGD-REG-HS-000003 Rev 03 - Cranes, Tower Cranes & Heavy Equipment Register**





4.5. Interface Communication Procedure

Effective communication is another parameter significantly contributing to successful lifting operations and is sometimes underestimated. Primarily it concerns communication between crane operator and rigger.

Operators and riggers work together to attach, lift, and move loads. They need to communicate effectively with each other to co-ordinate the crane operations and movements, and to avoid misunderstandings that may lead to accidents.

Some best practice for communication between a lifting team include the following:

- Use clear and standard signals (verbal, hand, or radio) to indicate the actions and movements required (Similar for communication between a number of riggers (working for same or different contractors and for same or different jobs)
- Assign only one person to signal the crane operator
- Confirm the understanding of the signals and instructions before executing them
- Maintain eye contact or line of sight whenever possible
- Immediately report any problems or changes in the lifting operation
- Identify critical risk and agree on the way to handle it
- Stop the lift if there is any doubt or confusion

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5. Lifting Gear Inspection

All lifting tackle shall be clearly marked, die-stamped or tagged as appropriate with a unique identification number and it's SWL. All items shall be color coded in accordance with internal color-coding scheme applicable at the time of utilization, in addition to the DGCL requirements i.e. the inspection interval for these gears shall include a three-monthly thorough third-party inspection by SASO approved certification provider.

Internal Inspection before each use:

- Inspection by competent rigger / lifting supervisor.
- Check for defects / damages.
- Check for SWL & Sizes clearly mentioned on lifting gear.
- Ensure use of lifting gear as per approved lifting plan
- Discard any torn-out / damaged / dirt-ridden lifting accessory.



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5.1. General guidelines for Lifting Gear

- Each new lifting gear shall be thoroughly examined.
- All lifting gear shall be supplied with a SASO-approved TPC certificate of a break test [three months validity]
- lifting gear slings shall be fitted with a label (laminated type) that gives the following minimum information:
 - SWL and distinguishing mark(s).
 - The material was used to manufacture the lifting gear
 - Name or unambiguous trademark of the manufacturer.
- lifting gear shall not be color coded with enamel or spray paint directly. Attach a label or circular disk to indicate the current color-coding system.
- Unknown / damaged / defected / expired lifting gear shall be removed from service or shall be certified.





5.2. DGCL guidelines for Lifting Gear

The below project-specific procedure and guidelines are stipulated in relevant DGCL document **DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009 Revision 03 Cranes, Rigging and Lifting Operations OH&S Procedure** which shall be implemented after due consultation and recommendation by PMC / CSC.

Wire Rope Inspection

As per DGCL lifting operations procedure reference number (DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009) the wire ropes must comply with the below.

- Do not use fiber core ropes for boom-hoist reeving, except for derricks.
- Do not use rotation-resistant ropes for boom-hoist reeving, except where the requirements of this section are met, as listed below.
- Rotation-resistant ropes may be used as boom-hoist reeving when load hoists are used as boom hoists for attachments such as luffing attachments or boom and mast attachment systems. Under these conditions, the following requirements will be met:
 - The drum will provide a first-layer rope-pitch diameter of not less than 18 times the nominal diameter of the rope used.
- The requirements in this standard (regardless of the date of manufacture of the equipment).
- The requirements in ASME B30.5- 2014, Section 5-1.3.2(a), (a)(2) through (a)(4), (b) and (d), except that the minimum pitch diameter for sheaves used in multiple-rope reeving is 18 times the nominal diameter of the rope used, instead of the value of 16 specified in Section 5-1.3.2(d).
- All sheaves used in the boom-hoist reeving system will have a rope-pitch diameter of not less than 18 times the nominal diameter of the rope used.
- The operating design factor for the boom-hoist reeving system cannot be less than 5.
- The operating design factor for these ropes will be the total minimum breaking force of all parts of rope in the system divided by the load imposed on the rope system when supporting the static weights of the structure, and the load within the equipment's rated capacity.
- When provided, a power-controlled lowering system will be capable of handling rated

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capacities and speeds as specified by the manufacturer.

- Socketing will be done in the manner specified by the manufacturer of the wire rope or fitting.
- Prior to cutting a wire rope, place seizing on each side of the point to be cut. The length and number of seizings will be in accordance with the wire-rope manufacturer's instructions
- Significant distortion of the wire rope structure such as kinking, crushing, unstringing, bird caging, signs of core failure, or steel core protrusion between the outer strands.
- Significant corrosion.
- Electric arc (from a source other than power lines) or heat damage.
- Improperly applied end connections.
- Significantly corroded, cracked, bent, or worn end connections (such as from severe service).
- In running wire ropes: Six randomly distributed broken wires in one rope lay, or three broken wires in one strand in one rope lay, where a rope lay is the length along the rope in which one strand makes a complete revolution around the rope.
- In rotation-resistant ropes: Two randomly distributed broken wires in six rope diameters, or four randomly distributed broken wires in 30 rope diameters.
- In pendants or standing wire ropes: More than two broken wires in one rope lay located in rope beyond end connections, and/or more than one broken wire in a rope.
- A diameter reduction of more than 5 percent from nominal diameter.
- In rotation-resistant wire rope, core protrusion or other distortion indicating core failure.
- Electrical contact with a power line.
- A broken strand

Shift Inspection:





- *A competent Rigger will conduct a visual inspection of wire ropes prior to each shift. They will observe wire ropes (running and standing) that are reasonably likely to be used during the shift for apparent deficiencies, including those listed below. Untwisting (opening) of wire rope or booming down is not required as part of this inspection.*

Apparent Deficiencies

- *Category I*
 - *Significant distortion of the wire rope structure such as kinking, crushing, unstringing, bird caging, signs of core failure, or steel core protrusion between the outer strands.*
 - *Significant corrosion.*
 - *Electric arc (from a source other than power lines) or heat damage.*
 - *Improperly applied end connections.*
 - *Significantly corroded, cracked, bent, or worn end connections (such as from severe service).*
- *Category II*

Visible broken wires, as follows:

- *In running wire ropes: Six randomly distributed broken wires in one rope lay, or three broken wires in one strand in one rope lay, where a rope lay is the length along the rope in which one strand makes a complete revolution around the rope.*
- *In rotation-resistant ropes: Two randomly distributed broken wires in six rope diameters, or four randomly distributed broken wires in 30 rope diameters.*

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- *In pendants or standing wire ropes: More than two broken wires in one rope lay located in rope beyond end connections, and/or more than one broken wire in a rope.*
- *A diameter reduction of more than 5 percent from nominal diameter.*

Category III

- *In rotation-resistant wire rope, core protrusion or other distortion indicating core failure.*
- *Electrical contact with a power line.*
- *A broken strand*

Critical review items

The competent person will pay particular attention to:





- *Rotation-resistant wire rope in use.*
- *Wire rope being used for boom hoists and luffing hoists, particularly at reverse bends.*
- *Wire rope at flange points, crossover points, and repetitive pickup points on drums.*
- *Wire rope adjacent to end connections.*
- *Wire rope at, and on, equalizer sheaves*

Removal from service:

- *If a deficiency in Category I is identified, an immediate determination will be made by the competent person as to whether the deficiency constitutes a safety hazard. If the deficiency is determined to constitute a safety hazard, operations involving use of the wire rope in question will be prohibited until:*
- *The wire rope is replaced; or if the deficiency (other than power line contact) is localized, the problem is corrected by severing the wire rope in two: the undamaged portion may continue to be used. Joining lengths of wire rope by splicing is prohibited. Repair of wire rope that contacted an energized power line is also prohibited*
- *If a deficiency in Category II is identified, the manager (or his/her designee) will comply with Option A or Option B, as follows:*
- *Option A. Consider the deficiency to constitute a safety hazard where it meets the wire rope manufacturer's established criterion for removal from service or meets a different criterion that the wire rope manufacturer has approved in writing for that specific wire rope. If the deficiency is considered a safety hazard, operations involving use of the wire rope in question will be prohibited until the wire rope is replaced; or*
- *Option B. If the deficiency is localized, the problem is corrected by severing the wire rope in two: the undamaged portion may continue to be used. Joining lengths of wire rope by splicing is prohibited.*

If a deficiency in Category III is identified, operations involving use of the wire rope in question will be prohibited until:

- *The wire rope is replaced; or*

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- If the deficiency (other than power line contact) is localized, the problem is corrected by severing the wire rope in two: the undamaged portion may continue to be used. Joining lengths of wire rope by splicing is prohibited. Repair of wire rope that contacted an energized power line is also prohibited.
- Where a wire rope is required to be removed from service under this section, either the equipment (as a whole) or the hoist with that wire rope will be tagged out, in accordance with this procedure, until the wire rope is repaired or replaced.

Monthly Wire Rope Inspection

- Each month a wire rope inspection will be conducted in accordance with the monthly crane inspection. Document the inspection using a documented Inspection report, or equivalent.
- In addition, at least every 6 months, crane accessories and wire ropes in use on equipment will be inspected by a Professional third party licensed and approved by SASO for the types of deficiencies listed below.
- The inspection will be complete and thorough, covering the surface of the entire length of the wire ropes, with particular attention given to:

Categories I, II, and III and critical review items.




- Those sections that are normally hidden during shift and monthly inspections.
- Wire rope in contact with saddles, equalizer sheaves, or other sheaves where rope travel is limited.
- Wire rope subject to reverse bends.
- Wire rope passing over sheaves.
- Wire rope at or near terminal ends.
- In the event a 6-month inspection is not feasible due to existing set-up and configuration of the equipment (such as where an assist crane is needed) or due to site conditions (such as a dense urban setting), such inspections will be conducted as soon as they become feasible, but no longer than an additional 6 months for running ropes; and for standing ropes, at the time of disassembly.
- If a deficiency is identified, an immediate determination will be made by the qualified third-party person as to whether the deficiency constitutes a safety hazard.
- If the deficiency is determined to constitute a safety hazard, operations involving use of the wire rope in question will be prohibited until:

The wire rope is replaced; or

- If the deficiency is localized, the problem is corrected by severing the wire rope in two: the undamaged portion may continue to be used. Joining lengths of wire rope by splicing is prohibited.
- If the qualified person determines that, although not currently a safety hazard, the deficiency needs to be monitored, the manager (or his/her designee) shall confirm that the deficiency is checked in the monthly inspections.

The inspection shall be documented in accordance with this procedure. Do not use rope lubricants that are of the type that hinder inspection.

Safety Devices

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- *This section does not apply to side-boom cranes.*
- *The following safety devices are required on all equipment covered by this procedure, unless otherwise specified:*
 - *Crane-level indicator*
 - *The equipment will have a crane-level indicator that is either built into the equipment or is available on the equipment.*
 - *If a built-in crane-level indicator is not working properly, it will be tagged-out or removed.*
 - *This requirement does not apply to portal cranes, derricks, floating cranes/derricks, and land cranes/derricks on barges, pontoons, vessels, or other means of flotation.*
 - *Boom stops, except for derricks and hydraulic booms.*
 - *Jib stops (if jib is attached), except for derricks.*
 - *Equipment with foot-pedal brakes will have locks, except for portal cranes and floating cranes.*
 - *Hydraulic outrigger jacks will have an integral holding device/check valve.*
 - *Equipment on rails will have rail clamps and rail stops, except for portal cranes.*





Proper Operation Required

- *Operations may not begin unless the devices listed in this section are in proper working order. If a device stops working properly during operations, the operator will safely stop operations.*
- *Do not resume operations until the device is working properly. Alternative measures are not permitted to be used.*









5.3. Disposal Procedure for Damaged / Worn out Lifting Gear





- Confiscate damaged / worn-out lifting gears
- Use proper PPE when disposing of damaged lifting gear.
- Cut into small pieces.
- Cut, or destroy, the eyes of the slings to prevent any further use of the sling.
- Remove, or separate, any tags and labels from the lifting equipment.
- Place scrap into recycling bins

Note: Damaged PPEs can be kept with OH&S team for training purpose

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5.4. Signs of Damage to Lifting Gear

Wire Rope Slings
<div style="display: flex; flex-wrap: wrap; justify-content: space-around;"> <div style="text-align: center;">  <p>KINKING</p> </div> <div style="text-align: center;">  <p>DOGLEGS</p> </div> <div style="text-align: center;">  <p>BIRDCAGING</p> </div> <div style="text-align: center;">  <p>SEVERE WEAR</p> </div> <div style="text-align: center;">  <p>BROKEN WIRES</p> </div> <div style="text-align: center;">  <p>CORROSION</p> </div> <div style="text-align: center;">  <p>DAMAGED FITTINGS</p> </div> <div style="text-align: center;">  <p>ILLEGIBLE TAG / ID</p> </div> </div>
<p>Broken Wires:</p> <p>Occasional wire breaks are normal for most ropes and are not critical provided they are at well-spaced intervals. Note the area and watch carefully for any further wire breaks. Broken wire ends should be removed as soon as possible by bending the broken ends back and forth with a pair of pliers. This way broken ends will be left tucked between the strands.</p>
<p>Worn or Abraded Wires:</p> <p>Abrasive wear causes the outer wires to become “D” shaped. These worn areas are often shiny in appearance. The rope must be replaced if wear exceeds 1/3 of the diameter of the wires.</p>
<p>Reduction in Rope Diameter:</p> <p>Reduction in rope diameter can be caused by abrasion of outside wires, crushing of the core, inner wire failure, or a loosening of the rope lay. All new ropes stretch slightly and decrease in diameter after being used. The simplest and quickest way is to use a rig-tension meter, such as the Loos gauge. Once the diameter of the wire is known, it will give the load both in kg and as a percentage of its breaking strain.</p>
<p>Rope Stretch:</p> <p>All steel ropes will stretch during initial periods of use. Called “constructional stretch”, this condition is permanent. It results when wires in the strands and strands in the rope seat themselves under load. Rope stretch can be recognized by increased lay length. Six-strand ropes will stretch about six inches per 100 feet of rope while eight-strand ropes stretch approximately 10 inches per 100 feet. Rope stretched by more than this amount must be replaced.</p>
<p>Corrosion:</p> <p>Corrosion is a very dangerous condition because it can develop inside the rope without being seen. Internal rusting will accelerate wear due to increased abrasion as wires rub against one another. When</p>

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pitting is observed, consider replacing the rope. Noticeable rusting and broken wires near attachments are also causes for replacement. Corrosion can be minimized by keeping the rope well lubricated.

Crushed, Flattened or Jammed Strands

These dangerous conditions require that the rope be replaced. They are often the result of crushing on the drum.

Bird Caging:

Bird caging is caused by the rope being twisted or by a sudden release of an overload. The rope, or the affected section, must be replaced.

Kinking:





Kinking is caused by loops that have been drawn too tightly as a result of improper handling. Kinks are permanent and will require that the rope, or damaged section, be taken out of service.

Polyester Webbing slings



Remove the sling from service if any of the following is visible:

- ✓ If sling rated capacity or sling material identification is missing or not legible
- ✓ Acid or alkaline burns
- ✓ Melting, charring or weld spatters on any part of the web sling
- ✓ Holes, tears, cuts, snags or embedded particles
- ✓ Broken or worn stitching in load bearing splices
- ✓ Excessive abrasive wear
- ✓ Knots in any part of the web sling
- ✓ Excessive pitting, or corrosion, or cracked, or distorted, or broken fittings
- ✓ Any other visible damage that causes doubt as to the strength of the sling

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5.5. Maintenance of Lifting Equipment

5.5.1. Preventive / Breakdown Maintenance Procedure

Preventive maintenance would ensure the optimum use out of lifting equipment. A maintenance program shall thus be created to help avoid costly emergency repairs and down time. This program would be developed based on needs, industries standards, and OSHA recommendations.

DGCL document **DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009 Revision 03 Cranes, Rigging and Lifting Operations OH&S Procedure** shall be consulted to identify requirements for preventive maintenance (major given below) and all lifting equipment shall undergo periodic inspection and maintenance.

- Hoisting mechanisms must be used only for vertical raising or lowering operations
- Crane jibs must not be worked at a radius greater than specified in the record.
- When loads, approaching the safe working load of the plant are to be lifted, the load must be raised a short distance first and the operation stopped to check stability and safety before continuing the lift.
- Inspections of all wear items for signs of excessive wear or fatigue
- Load chains or wire ropes
- All components requiring lubrication.
- Checking gearboxes for proper levels
- Checking control stations for safe operation
- Inspect all structure and support for safe operation.
- Test brakes for proper operation and adjust as needed.
- Confirm all limit switches and safety devices.
- Inspect all contactors and replace tips as needed.
- Inspect and lube load hooks and other lifting devices.
- Notice: it's unavoidable that PM team oversees all above-mentioned duties
- Lower hoist to unload rope sheaves.
- Unwind all wire rope from the hoist drum to expose all parts of a rope, making sure that the rope does not rewind in the reverse direction.
- Inspect sheaves, sockets, dead-ends, thimble joints, and all wire rope hardware
- During rope changes, check the sheaves for worn bearings, broken flanges, proper groove size, smoothness, and contour.
- Inspect all parts of the cable, cleaning wire rope only as required to complete an inspection. Excessive removal of lubrication will lead to damage.
- Re-lubricate rope to prevent corrosion, wear, friction, and drying out of the core.
- Check for ropes that may have been operated dry (UN lubricated). Replace dry ropes. There may be hidden damage that is not detected by visual inspection.
- Compare the rope length and diameter with the original dimensions. Lengthening accompanied by diameter reduction is often an indication of interior core defects.
- Visually examine the crane structure for deformed, cracked, or corroded members in the structure and boom. Check for loose bolts or rivets. Check for excessive wear on brake and clutch system parts.
- Check for deterioration or leakage in air or hydraulic systems.
- Check all control mechanisms for poor adjustment or excessive wear.
- Check accuracy of marking on the load/radius indicator over full range.
- Establish a schedule of rope replacement to change wire rope before it breaks. Periodic replacements do not take the place of inspections. If rope breaks or inspections reveal abnormal wire breakage or defects, reduce the time between replacements. Do not make wire rope slings from used wire rope.





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What are some things to remember when repairing a lifting equipment?

- Take the lifting equipment to a designated place where repairs will least interfere with other equipment.
- Ensure that all controllers are placed in the "off" position, and the main switches are open and locked.
- Ensure separate DB for load balancing and for power supply.
- Place on the switch a standard warning tag stating "DO NOT START." The tag must be filled out and signed
- Place rail stops or make other safety provisions when another crane operates on the same runway.
- Use fall protection equipment.
- Do not carry anything in your hands when going up and down ladders. Items that are too large to go into pockets or belts should be lifted to or lowered from the crane by a rope.
- Prevent loose parts or tools from falling to the floor.
- The area below the crane must be cleared and a barrier erected to prevent injury from a falling object.
- Replace all guards and other safety devices before leaving a crane.
- Remove all stops, tools, loose parts, and other material and dispose of them before completing the repair job.
- Enter all service inspections and repairs in a crane logbook or file.
- All cranes maintenance will be conducted in specific location,
- Only authorized and trained personal will conduct the maintained.
- All personal must wear proper PPE while doing any maintenance.
- lifting equipment will be re inspected by 3rd party in case of major repair/maintenance.

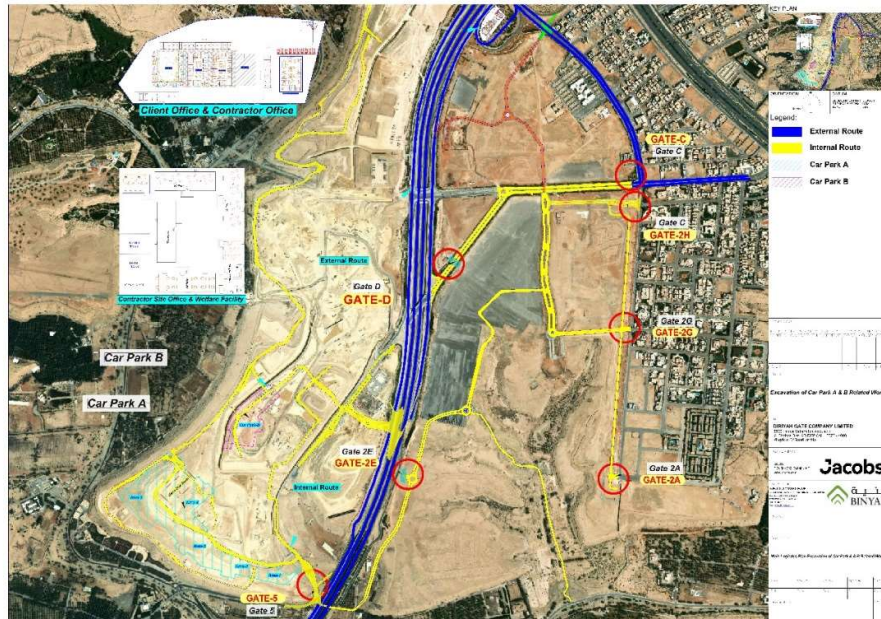
In case of crane breakdown area will be secured with exclusion zone immediately for further additional actions.

- The approved and competent team will conduct maintenance inside the exclusion zone only.
- No one will be allowed to cross the exclusion zone during maintenance.





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6. Access & Egress to Work Site

Following initial Logistics Plan shall be followed for mobilization of lifting equipment / delivery trucks to the project site & satellite offices etc.



Note: Gate 5 has restricted site entry through DGII

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7. Planning Lifts

7.1. Categories of Lifts (Internal)

Type of Lift	Classification & Requirements
Basic / Repetitive Lifts	<ul style="list-style-type: none"> • Loads that are less than 10 tons • Crane rated capacity is less than 50 percent for the configuration of the lift. • Approved lifting permit / plan. Pre-task planning, MSRA / Emergency Response Plan • Qualified Rigger 3 required for the lifting activity
Standard / Critical Lifts	<ul style="list-style-type: none"> • Loads that are between 10 tons to 40 tons OR Greater • Crane rated capacity is between 50 to 75 percent for the configuration of the lift. • Approved lifting permit / plan. Pre-task planning, MSRA / Emergency Response Plan • Qualified Rigger 2 and Lifting Supervisor required for the standard lifting activity • Qualified Rigger 1 and Lifting Supervisor required for the critical lifting activity
Types of Critical Activities	<ul style="list-style-type: none"> • Loads that are greater than 40 tons. • Working at Night • Tandem Lifts • Lifts near live road • Other hazardous instances specified under MSRA / relevant DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009 Revision 03 Cranes Rigging and Lifting Operations Procedure

7.2. PTW & Supporting Documents Requirements

- A competent Lifting Supervisor shall plan and issue lifting permit
- Internal Lifting Permit shall be signed by required Rigger, Task Supervisor and Crane Operator
- Internal Permit shall be issued by competent authority (Logistics Manager or their designated competent person)
- Signed lifting permit needs attachment of necessary supporting documents as below
 - Approved MSRA (Task-specific i.e. reviewed and approved up to date prior to carry out the lifting activity)
 - Dynamic Risk Assessment
 - Approved Emergency Response Plan
 - TPC for Lifting Equipment & Gear and Operator & Rigger
 - Load chart of crane
 - Lifting Permit / STARTT Card Briefing Copy
 - Any supporting drawing / sketch for the lift

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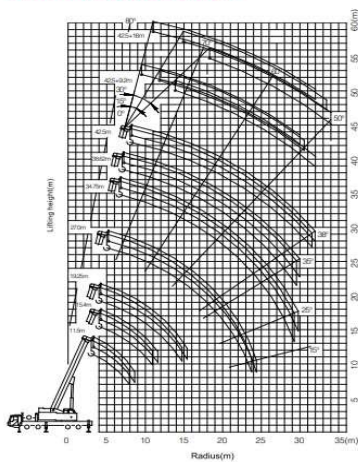
Necessary Actions:

- Authorities to be notified before lifting commences
- Ground condition is checked
- OH&S Personnel Present
- All lifting safety requirements are in place





Load Chart Calculations

Crane's load chart shall be consulted for planning the lifts and shall be available at time of lift with lifting supervisor / rigger on the job

STC500 WORKING RANGES







Radius (m)	Fully extended jibs (riggers) over top and rear (if fixed counterweight is)					
	17.5m	18.5m	19.25m	27m	34.75m	38.50m
3.5	52000	40000	32000	21000		
3.5	52000	40000	32000	21000		
4.0	44000	40000	32000	21000		
4.5	40000	36000	31000	21000	15000	
5.0	36000	32000	29000	20000	15000	
5.5	32000	30000	27000	19000	14000	
6.0	28000	27000	26000	18000	13000	14000
6.5	25000	25000	23000	17000	12000	14000
7.0	23000	23000	21000	16000	12000	14000
7.5	21000	21000	19000	15000	11000	13000
8.0	19000	19000	17000	14000	11000	13000
9.0	15000	15000	13000	12000	11000	13000
10.0	11000	11000	10000	10000	10000	13000
11.0	8000	8000	8000	9000	9000	13000
12.0	6000	6000	6000	7000	8000	13000
14.0	5000	6000	6000	6000	6000	13000
16.0	4000	4000	4000	5000	5000	13000
18.0	3000	4000	4000	4000	4000	13000
20.0	2000	3000	3000	3000	3000	13000
22.0	1000	2000	2000	2000	2000	13000
24.0	1000	1000	1000	1000	1000	13000
26.0	1000	1000	1000	1000	1000	13000
28.0	1000	1000	1000	1000	1000	13000
30.0	1000	1000	1000	1000	1000	13000
32.0	1000	1000	1000	1000	1000	13000
34.0	1000	1000	1000	1000	1000	13000





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8. Lifting Operation Risk Assessment





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Company Name:		BINYAH Saudi Real Estate Infrastructure Company						Date:		27-04-2024					
Activity Name:		Lifting Operation Risk Assessment						Site Location		DGI – Car Park ‘A’ & ‘B’					
Sr. No	Task	Hazards Identified	Harm	Risk Rating without control measures				Control Measures	Controlled by whom	Residual Risk					
				L	X	S	H			L	X	S	H		
1	Equipment Mobilization	<ul style="list-style-type: none">• Equipment and operator without 3rd party certificate• Lack of knowledge in conducting equipment inspection• Struck by other moving equipment and vehicles.• Dilapidated equipment• Damaged or defective condition of the equipment• Unauthorized entry of the equipment to the	<ul style="list-style-type: none">• Failure of equipment may lead to an accident or incident.• Physical / fatal injury• Damage to property• Physical injury from a slip, trips, and fall• Vehicular accident• Accident resulting in Injury to personnel.• Fatality or injuries during the operation of the equipment	5	X	3	15	<ol style="list-style-type: none">1. All operators must be trained and approve from SASO approved third party company. All equipment must be approving from SASO approved third party company.2. Crane should be inspected every 3 months as per DGCL procedure DGCL DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000009 Revision 02,3. All lifting gear must be SASO approved 3rd party certified every 6 months.4. Daily equipment inspection must be carried out by the operator and verified by the site supervisor.5. The equipment to be used must be in good condition.	Project Manager / Construction Manager / Logistics Manager / Equipment Supervisor / OH&S team	1	X	3	03		

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		site. • Exposure to excessive noise from simultaneous equipment operation						6. The equipment must be suitable to perform the task. 7. All operators must be trained in conducting the inspection of equipment followed by a checklist. 8. All equipment must be monthly inspected and color-coded by a competent person. 9. The equipment Operator shall be oriented on how to use and fill out the checklist properly. 10. Establish equipment access and shall be free from any obstruction. 11. Establish equipment access and shall be free from any obstruction. 12. Equipment must be parked in the designated area only. 13. Designate spotter and flagman to guide all equipment and personnel movement. 14. All drivers and operators shall undergo defensive Driving Safety Training. 15. Daily toolbox talk must be conducted before any work commences.				
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								16. All heavy equipment and its driver/operator approve from SASO approved third-party company. authorizing them on the specified equipment to operate 17. All heavy equipment shall be inspected by the authorized operator daily to ensure that equipment is in good working condition before using to the site. 18. Heavy equipment shall not be used if found any defects or damage that might affect its safe operation. 19. Repair of heavy equipment shall not be done on the site. It must be brought to the designated workshop and only a certified mechanic shall make repair of the equipment. 20. Site supervisor to ensure selection and mobilization of only good condition equipment at the site. 21. Provide an adequate earplug that would reduce the noise level to the permissible exposure limit.					
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								22. Workers shall be oriented on how to wear the earplug properly. 23. Periodical replacement of PPE. 24. Avoid more than 8hrs exposure to sound 85dB above level.					
2	Equipment Movement	<ul style="list-style-type: none">• Worker Struck by / Knocked down by moving equipment• Unsafe Exit and entry to the main road.• Overturning of vehicles•Overloading the vehicles•Oil spillage	<ul style="list-style-type: none">•Property damage•Fatality or injuries during the operation of the equipment	4x3		12		<ol style="list-style-type: none">1. All the mobile plants shall be equipped with reverse alarms & flashing lights.2. All operators must be trained and approve from SASO approved third party company.3. All equipment must be approved from SASO approved third party company.4. All equipment while reversing, banks man shall be provided. Speed limit & traffic management signs should be displayed and followed.5. Toolbox talks to be conducted Prior to starting the activity.6. Adequate access must be provided for pedestrians.7. Speed of vehicles on-site to be limited to walking speed or in conjunction with the site speed limit signs established.	Construction Manager / Logistics Manager / Equipment Supervisor / OH&S team	1x3	03		

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							8. Develop and implement a traffic management plan. 9. Competent and experienced supervisor and operatives to undertake works. 10. Always maintain Safe clearance 11. All the mobile plants shall be equipped with reverse alarms & flashing lights. 12. All operators must be trained, and 3rd party certified. 13. All equipment must be 3rd party certified. 14. All equipment while reversing, banks man shall be provided. 15. Speed limit & traffic management signs should be displayed and followed. 16. Vehicles must be loaded as per the loading capacity of the vehicle. 17. All the plants, equipment & vehicles should be equipped with suitable fire extinguishers. 18. Safe loading and unloading awareness training should be given to drivers and operators.					
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								19. Crossing points(intersections) must be controlled by erecting warning signs on both sides. 20. Equipment must be inspected prior to their operation. 21. Adequate access must be provided for pedestrians. 22. All the plants, equipment & vehicles should be equipped with suitable fire extinguishers. 23. Equipment must be well maintained to prevent oil leakage. 24. Drip tray must be provided with equipment and should be placed under idle condition. 25. Spill kit must be provided at site premises.					
	Lifting of heavy loads using a mobile crane or boom truck (portacabin, Pipes, jersey barriers)	<ul style="list-style-type: none">• Entry of unauthorized personnel to the working area.• Equipment Malfunction• Riggers in the Line of Fire (Pinch Points)• Property Damage• Blind Spot Striking overhead cables / objects.	<ul style="list-style-type: none">• Crane or boom truck turnover (topple / fall)• Accident resulting in injury or death to personnel.• Significant property damage to crane and adjacent structures	4X5			20	<ol style="list-style-type: none">1. Nobody shall pass, walk, or stay or cause anyone to be under the suspended load.2. Conduct toolbox meetings and discuss with all the workers.3. Supervisor and Foreman shall have close monitoring and supervision on the activity disallowing workers to stand, stay, work, or pass under a suspended load.	Construction Manager, Site Engineer, OH&S Manager, Lifting Supervisor, OH&S Officer, Rigger	1X5		5	

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		<ul style="list-style-type: none"> • Unsafe Ground conditions. • Wrong Equipment selected for the task resulting in failure. • Failure/roll over of mobile crane when lifting. • Rigger puts himself in danger at height to sling the load. • Property Damage (Struck By) • Blind Spots/Restricted Improper speed of boom swing Struck by or collision with other equipment or structure during lifting and swing of the boom • Struck against Existing Facilities, personnel & equipment Personnel standing, passing, or working directly below the suspended load Working without a permit 	<ul style="list-style-type: none"> • Crane or boom truck turnover (topple / fall) • Accident resulting in injury or death to personnel. • Significant property damage to crane and adjacent structures • Failure of the machine, damage to equipment, the collapse of equipment, struck by falling materials • Serious accident to personnel • Collapse or overturning of lifting equipment • Significant property damage • Accident resulting in injury to personnel 					<ol style="list-style-type: none"> 4. If working under the load is necessary, it must be supported with a rigid structure capable to carry its load without failure 5. All rigging equipment shall be pre- inspected by a certified rigger prior to its use. 6. Damaged slings/ wire ropes shall be reported & removed from service, especially those with visible melting, charring, snags, broken/worn stitching, and damaged tags/rated capacity. 7. Ensure that all rigging equipment & hardware are rated for the load being hoisted. 8. Protect slings from sharp edges and abrasions; avoid sharp bends. 9. Safety officer and lifting supervisor must validate the inspection of all rigging hardware and ensure the completion of checklists. 10. Stop lifting operation if wind speed exceeded 32 Kms/hr 					
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		<ul style="list-style-type: none"> • Lack of job site knowledge • Lack of communication • Lack of PPE <p>Unauthorized entry of personnel to lifting zone Unauthorized access to lifting zone</p> <ul style="list-style-type: none"> • Poor Visibility (Night Lifting) Fall into the excavation. • Lifting near to trench edge or excavation • Mechanical Failure Uncontrollable, Load swing. • Vision impairment. • Jerking of load results in a sudden increase in load weight. 	<ul style="list-style-type: none"> • Collapse or overturning of lifting equipment. 					<ol style="list-style-type: none"> 11. Suspend the lifting activity during the Rain, Sandstorm and Fog. 12. Hooks with self-closing safety latches, or their equivalent, shall be used to prevent components from slipping out of the hook. 13. Use tagline to control the suspended load. 14. No one is allowed to work under the suspended load. 15. Always keep a safe distance from the suspended load 16. Lifting areas should be barricaded with appropriate signage to prevent unauthorized entry. 17. Operator should not leave the cabin when the load is suspended. 18. Lifting supervisor to ensure a valid permit is issued before commencing any lifting activity. 19. Supervisor to conduct a pre-task briefing prior to commencing any activity to aware workers of tasks and hazards associated with them. 					
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								20. Site safety to ensure workers have appropriate PPE. 21. Lifting supervisor along with crane operator must conduct pre-inspection of crane and lifting accessories. 22. Lifting supervisor to ensure lifting zone is properly barricaded and warning signages are placed to restrict unauthorized entry. 23. Sufficient flagmen or spotters are placed to monitor and control the flow of traffic and personnel. 24. Unauthorized entry must be restricted. 25. Competent supervision must be available at the time of lifting. 26. Only competent, trained, and skilled personnel shall be deployed to perform 27. Permit for a Crane Suspended Personnel Platform (Man basket) must be available onsite prior to the lift. 28. De-rate the crane by fifty percent (50%) of the load chart.					
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								equipment is strictly forbidden. 51. Safety officer and lifting supervisor must validate the inspection of all heavy equipment and ensure the completion of checklists.					
	Critical liftings (Tandem lifting, Tail lifting, Complex lifting. Standard lifting, Near excavations, Near high-voltage cables, Lifting near hydrocarbon and/or pressurized piping areas Night shift lifts)	<ul style="list-style-type: none">• Incompetent staff• Poor Crane Configuration / fitness / ground stability• Wrong selection of lifting gear• Unsafe distance to Electric cables• Adverse Weather• Excavation collapse• Lifting gears failures.• Poor Illuminations	<ul style="list-style-type: none">• Collapse or overturning of equipment.• Significant property damage• Accident resulting in injury to personnel.• Accident resulting LTI and or fatality.	5X3			15	<ol style="list-style-type: none">1. Each crane involves in a critical lift has the minimum capacity to take the load individually.2. Verify the ground stability considering a complete load of cranes plus the load to be lifted with safety factors.3. Don't allow the crane to lift more than 75% of its lifting capacity.4. Operator, rigger, and other staff involved in lifting operation must be SASO approved 3rd party certified.5. Lifting gears must be third-party certified and conduct pre-inspection before each lift.6. Maintain a safe distance from electrical cables.7. Voltage Minimum Approach Limits<ul style="list-style-type: none">• o Up to 50,000 V 3.1 m (10 ft.)	Construction Manager, OH&S Manager Project Engineer, Lifting Engineer Foreman, OH&S Officer Lifting supervisor, Rigger I	1X3	03		

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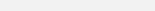
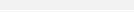
							<ul style="list-style-type: none"> o 50,000 to 200,000 V 4.6 m (15 ft.) o 200,000 to 350,000 V 6.1 m (20 ft.) <ol style="list-style-type: none"> Update the weather forecast before start of the lifting operation, lifting operation should stop at a wind speed of 32 km/hr. Park the crane in a safe position as recommended by the manufacturer. Cranes must set away from the edge of excavations at a safe distance. Lifting supervisor and Rigger level 1 shall plan execute and monitor the critical lifting. All equipment, operators and riggers shall be certified by SASO approved third party. Daily inspection shall be conducted by a competent person for the lifting accessories and equipment and a checklist shall be maintained. A lifting plan shall be prepared for each lift along with PTW and necessary attachments. Outriggers of the crane shall be fully extended and safety 				
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								devices (LMI, Wind Monitor) etc shall be operational. 15. Exclusion zones shall be provided with appropriate signages. 16. Please remove the boom truck lifts from the non-critical lifting category as it can be critical in different circumstances.					
	Non-critical lifts (Load lower than 10 tons, limited to a single crane, load that is less than 75% of the crane's rated capacity, does not involve potentially unstable loads	<ul style="list-style-type: none">• Poor Ground Stability• Incompetent Operator• Incompetent Rigger• Overloading• Unsafe Lifting Gears (Fitness and suitability)• Adverse Weather	<ul style="list-style-type: none">• Back Pain• Muscle Cramps• Minor and major injuries	4X3		12		<ol style="list-style-type: none">1. Ensure the ground is stable to bear a load of the truck as well as the load being lifted.2. Ground shall be firm/level and free from openings/trenches.3. Outrigger pad shall be as per manufacturer recommendation with recommended material.4. Weather conditions shall be suitable to perform lifting operations. No lifting shall allow if wind speed exceeds 32 km/Hr.5. Operator shall be competent and certified to perform the lifting operation from 3rd party.6. Pre-inspection of the equipment shall be conducted to ensure the fitness of the	Construction Manager, Project Engineer Supervisor, Foreman, OH&S Officer Lifting Supervisor, Rigger III	1X3	03		

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							<p>equipment. If any leakage in the hydraulic, it shall be rectified before the start of the activity</p> <p>7. Don't allow taking a load of more than 75 % of the equipment capacity</p> <p>8. Lifting gears shall have a periodic inspection and color-coding. Lifting gears shall be respected for each lift to ensure its fitness</p> <p>9. Maintain a safe distance from electrical cable.</p> <p>10. Weather forecast shall be obtained/distributed if any alarm.</p> <p>11. If the forecast shows wind can exceed 32 KM/Hr, replan your activity.</p> <p>12. Park the equipment at level /firm and stable ground on completion of the activity or when needed to park.</p> <p>13. Certified rigger with minimum level III shall be available to control the lifting operations.</p>					
	Lifting Operation by Boom Truck	<ul style="list-style-type: none"> Unsafe Ground Stability Incompetent Operator 	<ul style="list-style-type: none"> Collapse or overturning of equipment. 	3X4		12	<p>1. Ensure the ground is stable to bear a load of the truck as well as the load being lifted.</p>	Site Engineer Foreman, OH&S Officer Lifting Supervisor, Rigger III	1X4		4	

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								9. Maintain a safe distance from electrical cable. 10. Weather forecast shall be obtained/distributed if any alarm. 11. If the forecast shows wind can exceed 32 KM/Hr, replan your activity. 12. Activity shall be suspended at a wind speed of 32 KM/Hr. 13. Park the equipment at level /firm and stable ground on completion of the activity or when needed to park 14. Certified rigger with minimum level III shall be available to control the lifting operations.					
	Erection removal of jersey barriers using forklifts/boom trucks	<ul style="list-style-type: none">• Overloading• Unsafe and improper handling/lifting techniques• Working at live/public road without flagman• Slip and fall of the barriers.• Unapproved methodology of lifting barriers.• Incorrect type of	<ul style="list-style-type: none">• Collapse or overturning of equipmentSignificant property damage• Accident resulting in injury to personnel.• Fatality or permanent disability.	5X3			15	1. Operator and equipment must be 3rd party certified. 2. Operator to ensure load before attempting any loading or unloading of jersey barriers. 3. Forklift must be escorted on the public road. 4. Supervisor to ensure the forklift is not using the public road to transport jersey barriers within site premises.	Site Engineer Foreman, OH&S Officer Lifting supervisor, Rigger III	1X3	03		

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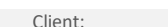



		equipment used. • Untrained workers and operators.						5. Spotter must be assigned to control equipment movement. 6. Operators must be given sufficient training regarding hazards associated with the activity and its control measures. 7. The Operator and equipment shall be certified by SASO approved third party. 8. MSRA and task-specific briefings shall be conducted, and TBT shall be given before the start of each activity. 9. A permanent job supervisor shall be assigned to the activity. 10. An exclusion zone shall be provided. 11. No other activity shall be carried out in the lifting zone. 12. Daily inspection of the equipment and lifting accessories shall be conducted by a competent person and a daily inspection checklist shall be maintained. 13. The forklift shall not raise the forks while lifting and moving barriers above-head height.				
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								14. A work permit shall be obtained with all necessary attachments before the start of the activity and shall be briefed to all workers involved in the activity.					
	Manual Handling	<ul style="list-style-type: none">• Lack of ergonomic awareness• Awkward positioning• Exposure to Lifting, carrying, pushing, and pulling of heavy loads.• Repetitive task• Exposed to sharp edges.	<ul style="list-style-type: none">• Muscle Cramps• Back injuries• Cuts, bruises	3X3		09		<ol style="list-style-type: none">1. Minimize manual handling as far as possible and use mechanical aids for carrying heavy objects such as trolleys.2. Ensure use of proper handles or handling aids while lifting/carrying objects that are difficult to grasp.3. Apply protective covering to exposed sharp edges of load before lifting it.4. Supervisor to instruct, inform and conduct training on adequate techniques and good body posture for manual handling activity.5. Supervisor to ensure adequate techniques and body posture of workers during manual lifting, pushing, pulling, and carrying loads such as keeping object/load close to the body while lifting/carrying, avoiding twisting or jerking.	Site Engineer Foreman, OH&S Officer Lifting supervisor, Rigger III	1X3	03		

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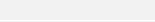

							15. Sufficient workspace to be ensured. 16. Always operate the tool at a slight angle with it leaning back towards you. 17. Make a suitable and sufficient assessment of the risk of injury from any manual handling operations that cannot be avoided.				
	Material Storage	<ul style="list-style-type: none"> Improper storage of flammables at site premises. 	<ul style="list-style-type: none"> Fire and explosion Possible Site Closure Material damage 	4X2	08	1. Prior to any material being lifted it must be ensured that the weight is judged. 2. Adequate stacking of materials. 3. Harmful and hazardous materials must be stored separately and labelled. 4. Flammables shall be stored separately with Adequate fire protection 5. Cylinders shall be stored separately and kept. 6. the upright position 7. Forbid manual handlings of loads above 25 kg for men. 8. All equipment shall be unloaded at the storage area and identified. They shall be carried at site only upon	Site Engineer, Electrical Engineer, Logistics Supervisor, OH&S Team	1X2	2		

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								schedule request validated by the Site Manager.					
	Housekeeping, clearing the area with all used materials, tools, equipment brought from the designated storage and disposal area	<ul style="list-style-type: none"> Unwanted materials laid inside and outside the excavation area. Ladder and hand tools that block in the walkway. Manual handling. Materials lying on the ground. Protruding object/materials at the site. Uncollected/scattered rubbish. 	<ul style="list-style-type: none"> Manual handling can lead to musculoskeletal disorders. Fire. Property damage. Accident resulting in injury to the worker. Physical injuries from slips, trips, and falls. 	5X3			15	<ol style="list-style-type: none"> Conduct and maintain daily housekeeping. Supervisor must designate 1 or 2 persons to maintain good housekeeping. Facilitate training for manual handling. Observe proper posture during manual lifting, pushing, pulling, etc. Provide appropriate and designated storage location. Remove all unwanted/protruding materials/objects at the site. Provision of waste skip in the strategic location at the site with marking. Provision of color-coded waste bins at the site. Provision of standby fire extinguisher. Periodical inspection and/or colour coding for a fire extinguisher. Maintain daily proper housekeeping. 	Site Engineer, Electrical Engineer, Logistics Supervisor, OH&S Team	1X3	03		

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								12. Additional person for housekeeping must be provided if necessary. 13. Provide a designated trash disposal area so anybody can perform housekeeping. 14. Labelling of storage box (good items, scrap/damaged items, by capacity, etc.) 15. Immediate disposal or sending the damaged one to the storekeeper. 16. Training/awareness regarding the segregation of waste.				
	Workers working in direct sunlight	• Continuous exposure to direct sunlight and excessive temperature	• Heat stress • Heatstroke • De-hydration • Fatality • Sunburn	4X4			16	1. Use heat Index to monitor temperature and humidity throughout the day and stop work if required as per heat index. Do not allow work in sunlight for an extended time (15 min max). 2. First aider should be available in the area. 3. Modify work schedules and arrange frequent rest periods. 4. Provide adequate cool water to workers close to the work area. 5. Provide covered rest shelter near the working area.	Site Engineer, Supervisor, OH&S Team	4X1		4

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								6. Heat stress training and drills should be conducted to educate the proper course of action in case of a heat stress emergency.				
								7. Display educational information related to heat stress conditions, illness/symptoms, and preventive measures) on bulletin boards and break.				
								8. /Recovery areas, etc. In addition, distribute heat stress information at safety meetings/talks, etc., in a form suitable for workers.				
								9. Trained first aider with a fully equipped first aid box should be available at site.				
	Traffic and motor vehicle movement at site	<ul style="list-style-type: none"> • Unqualified drivers /operators Speeding at • Site premises • Improper site access/egress. • Vehicle jamming and unsafe pedestrians movement 	<ul style="list-style-type: none"> • Collision between public vehicle and equipment • Fatality or multiple injuries 	5x3			15	1. Provide an effective training and orientation to all operators and drivers. 2. Restrict vehicle speed to the posted speed limits. 3. Provide speed sign and traffic control measures at the site. 4. Ensure that all operators are familiar with the site regulations. 5. Procedures for disciplinary actions will be established to	Construction manager, Site Engineer, Site Supervisor, Logistics & OH&S Teams	1x3	03	

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		<ul style="list-style-type: none"> • Unsafe transportation and equipment movement 						<p>support and augment traffic safety program.</p> <ol style="list-style-type: none"> Anticipate the requirements in obtaining valid access or sticker to acquire it. Maintenance program in caring motor vehicle will be established and maintenance checklist will be developed. All damaged vehicles shall not be allowed to use. Develop a traffic plan to anticipate the inconvenience caused by vehicle jamming and to ensure the safety of all personnel. The plan will include proper parking areas, proposed detour routes, approved warning signs, flagman, barricades, blinking lights, and directional arrows. Organize and implement the action plan indicated with the traffic management plan. Ensure that all operators are certified and trained to each assigned equipment or task. All equipment movement will be coordinated, and all safety requirements will be adhered to prior to being in motion. 				
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								13. Front end loaders and forklifts shall not be allowed to use in transporting materials/equipment on plant streets. Provide escort while traveling as required.					
	Working at the site during the night	• Poor illumination • Slip, trips, fall	• Collision of vehicles • Multiple injuries • Fatality	5x4			20	<div>1. Supervisor to ensure all excavations must be barricaded and warning lights must be placed on them.</div> <div>2. Site access/egress must be properly marked, and flagman must be deployed to control it.</div> <div>3. All intersection must contain direction signs and properly illuminated by warning lights to avoid any mishap.</div> <div>4. Flood/tower lights must be readily available at site before commencing any activity.</div> <div>5. Supervisor to ensure all workers take nap before coming at site for nightshift.</div> <div>6. All activities must be supervised by competent safety staff and followed by valid permits.</div> <div>7. Toolbox talks must be conducted before commencing any activity.</div>	Logistics Manager, OH&S Team	1x4		04	

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								8. Standby generator must be available to ensure continuous illumination at site premises.				
	Workers working during fasting	<ul style="list-style-type: none"> Continuous exposure to direct sunlight Sleeplessness 	<ul style="list-style-type: none"> Heat Stress related illness due to continuous exposure to high temperature and dehydration Unconsciousness and tiredness due to lack of sleep Poor function ability during work may lead to mishaps during work 	5x4			20	<ol style="list-style-type: none"> First aider should be available in the area. Modify work schedules and arrange frequent rest periods. Provide covered rest shelter near the working area. Heat stress training and drills should be conducted to educate the proper course of action in case of a heat stress emergency. Display educational information related to heat stress conditions, illness/symptoms, and preventive measures) on bulletin boards and break. /Recovery areas, etc. In addition, distribute heat stress information at safety meetings/talks, etc., in a form suitable for workers. Trained first aider with a fully equipped first aid box should be available at the site. Nurse and Ambulance drivers should regularly monitor and visit the site. 	Logistics Manager, OH&S Team	1x4		4

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								9. Working hours should be modified and regulated as per guidelines from MOI/Labor Law during month of Ramadan.								
	First Aid facility at site premises	<ul style="list-style-type: none">Unqualified/uncertified first aider personnel resulting in injury Insufficient first aid supplies.Lack of first aid facilities	<ul style="list-style-type: none">Personal InjuryDelayed Emergency Response leading to complications	4x3		12		<ol style="list-style-type: none">Certified and competent first aider must be available at site during working.Adequate first aid supplies must be available all the time during working at site.Monthly inspection to be conducted to ensure first aid supplies is available.Consumed supplies are to be replaced immediately.First aid boxes must be available at site.Training is to be conducted and workers must be aware about the location of the first aid station.First aid station to be marked and shall be closed proximity of work area.First aid personnel shall be available, and all first aid treatments shall be recorded.	Project Manager, Incident Commander, OH&S Team	1x3	3					
Likelihood (L)				Severity (S)				Risk Level		Risk Matrix						
Rare – 1				Insignificant - 1				Extreme Risk 15 - 25		Likelihood	5	5	10	15	20	25
Possible – 2				Minor - 2				High Risk 8 - 12			4	4	8	12	16	20


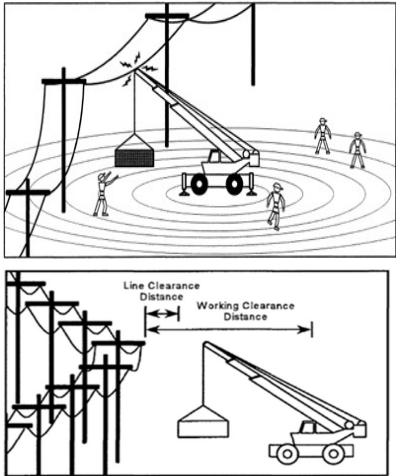



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Likely – 3	Moderate - 3	Moderate Risk 4 - 6		3	3	6	9	12	15
Often – 4	Major - 4	Low Risk 1 - 3		2	2	4	6	8	10
Frequent/Almost certain – 5	Catastrophic - 5			1	1	2	3	4	5
				1	2	3	4	5	
				Severity (S)					
Assessed by:	Muhammad Ahmed Bhatti	Approved By:	Vikram Rattan						
Designation:	OH&S Manager	Designation:	Project Manager						
Signature:	<i>Ahmed Bhatti</i>	Signature:	<i>Vikram Rattan</i>						
Date:	27-04-2024	Date:	27-04-2024						

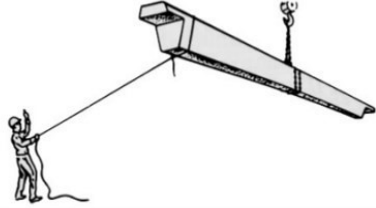
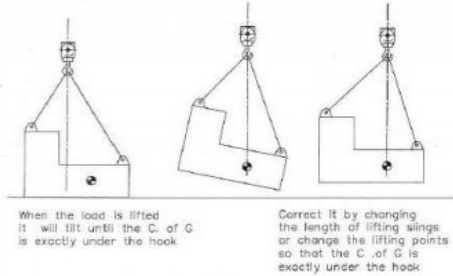
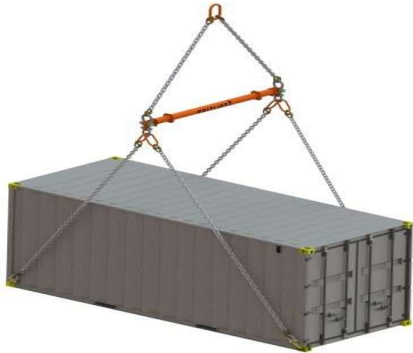

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9. Other Requirements and OH&S considerations

- All lifting equipment should have a Valid Vehicle Insurance
- Operator should have valid Iqama (with same profession), Driving License & medical insurance.
- Rigger suited for job should have valid Iqama & Medical Insurance
- Park your vehicle with due consideration for others
- Avoid blocking access/egress routes.
- Avoid blocking fire points.
- Binyah strictly enforces Mobile phone / hand-held devices policy and disciplinary actions / terminations to follow in case of willful violations.

Ground Condition must be; <ul style="list-style-type: none"> ✓ Stable ✓ Firm ✓ Even ✓ Backfilled ✓ Away from Excavation and Slope 	
Height Clearance Crane might hit; <ul style="list-style-type: none"> ✓ Overhead structures ✓ Overhead power lines Resulting in; <ul style="list-style-type: none"> ✓ Property Damage ✓ Electrocution/Death 	
Outrigger Placement <ul style="list-style-type: none"> - Fully Extended - Away from Excavation - Outrigger Pads in use 	
Outrigger Placement (Poor Practices)	
	

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Safe Slings <ul style="list-style-type: none"> - Tag line should be attached to the swinging load to help it landing in the right place 	
Center of Gravity <ul style="list-style-type: none"> - Shift in center of gravity should be considered for all loads by the competent lifting supervisor/rigger. 	 <p>When the load is lifted it will tilt until the C. of G is exactly under the hook</p> <p>Correct it by changing the length of lifting slings or change the lifting points so that the C. of G is exactly under the hook</p>
Spreader Beam <ul style="list-style-type: none"> - Most bulky loads are to be lifted with the help of spreader beam. It should be third-party certified (SASO approved) and inspected for safe operation. The rigging attachments should be safe and in line with approved lifting plan 	
Wind Speed <ul style="list-style-type: none"> - The anemometer shall be used with the crane and the wind speed to be monitored during lifting operation. For lifting equipment not fitted with anemometers, use a hand-held device to check wind speed. - Precautions shall be there during high wind and all lifting operation must be suspended if wind speed exceeds 32 km/h or 8.8 m/s - Lower the boom in case high wind 	

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9.1. PPEs Requirements for Lifting Crew

- High Vis Uniform / Vest
- Appropriate Hard Hat as per code (With chin strip)
- Safety Goggles (Day & Night)
- Safety Shoes with steel toe
- Double Safety Gloves
- Mask (If blowing dust)



Instructions to Lifting Crew



No Mobile Use
Allowed







No Handsfree
Allowed



No Music
Allowed



No Other Work
Allowed

Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				

Appendix A: Internal / External OH&S Forms & Templates







Emergency Contacts' Details Form

Excavation of Car Park 'A', 'B' and related works



Emergency Telephone Numbers		
Service	Location/Authority	Contact Number
Police	Emergency	999
Civil Defense	Emergency	998
Ambulance	Emergency	997
Local Hospital	Dallah Hospital – Alnakheel	920012222
Local Medical Centre	Maroom Riyadh	920003314
Utilities		
Title	Name	Contact Number
Electricity	SEC	993
Water	NWC	8004411110
Gas	Baladi	940
Project Team		
Title	Name	Contact Number
Project Director	Abdullah Alajmi	0505103063
Project Manager	Vikram Rattan	0563789591
Project OH&S Manager	Ahmed Bhatti	0509824782
Logistics Manager (Liaison Communication Lead)	Syed Shuaib	0546576529
After Hours Contacts		
Title	Name	Contact Number
Security	Yahya Gibran Hazazi	0557707927
Construction Manager (Incident Commander)	Yahya Alshaikh	0599522293
General Contacts		
Title	Name	Contact Number
Sr. Site Engineer	Hidayat Ullah	0563935496
Site Engineer	Saad Alfaydi	0545727510
Safety Officer (Day Shift)	Osama Israr	0565485762
Safety Officer (Night)	Ahmed Nijris	0566190776
Paramedic	Khalid Alrowaili	0540577629
First Aider	Imran Mohiyyuddin	0592652846

Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				







Emergency Management Team Form


Excavation of Car Park 'A', 'B' and related works







Emergency Management Team Contact Details			
Emergency Team Role	Name	Contact Number	Project Position Held
Emergency Team Leader (Chief Warden)	Waheed Akram	0580580419	OH&S Lead
Deputy Emergency Team Leader (Deputy Chief Warden)	Arif Zargar	0565354586	Logistics Supervisor
Communications Officer	Syed Shuaib	0546576529	Logistics Manager
Emergency Team Member (Field Commander – Car Park A)	Abdullah Alshehri	0509795635	OH&S Supervisor
Emergency Team Member (Field Commander – Car Park B)	Osama Israr	0565485762	OH&S Supervisor
Emergency Team Member (Staging Area Lead)	Ibrahim Obaidan	0590201222	Logistics Supervisor
Emergency Team Member (Assembly Point Area)	Nafius Shams	0503932063	Storekeeper
Security Personnel	Yahya Gibran Hazazi	0557707927	Security Guard (Day)
Security Personnel	Saud	0598856046	Security Guard (Night)
First aid Attendant (nurse or doctor)	Khalid Alrowaili	0540577629	Site Paramedic
First aid Attendant (nurse or doctor)	Imran Mohiyyuddin	0592652846	QA/QC Inspector





Client:	SAFE LIFTING PLAN				Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)	
	Contract No.	DD-2022-363.2	PMC:		
	Doc. No.	TBA	CSC:		
					

Basic / Repetitive Lifting Permit (Internal)

	Basic / Repetitive Lifting Permit		Form-02	
			Rev.: 01	Date:
Name of Project				
Description of the Lift		Load Details		
Details of Crane / Equipment				
Type of Crane / Capacity				
Maximum Boom Length				
Counterweight (If applied)				
Boom Length				
Maximum Radius of Lift				
Outrigger Centers				
Load Calculation				
Maximum Weight of the Load (A)				
Weight of Rigging/Lifting Equipment & Hook Block (B)				
Total Weight of Load to be Lifted (C) = (A+B)				
Crane Capacity at Maximum Radius of Lift (SWL) (D)				
Percent Crane Capacity at Maximum Lift Radius (C/D)%				
No. of Lifting Points (in case of Tandem Lift)				
Types of Lifting Gears to be used :				
Limit Switches, SLI, Brakes, Angle Indicator is Working?			Yes <input type="checkbox"/> No <input type="checkbox"/>	
Flag Man, Banks Man, Barricades, Safety Signs in Place?			Yes <input type="checkbox"/> No <input type="checkbox"/>	
Energized Power Lines Within Boom Radius?			Yes <input type="checkbox"/> No <input type="checkbox"/>	
In Case of Night Shift, do you have approval and all Safety Arrangements?			Yes <input type="checkbox"/> No <input type="checkbox"/>	
N/A <input type="checkbox"/>				

Client:	SAFE LIFTING PLAN				Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)	
	Contract No.	DD-2022-363.2	PMC:		
	Doc. No.	TBA	CSC:		
					

Tag Lines Required			Wind Speed < 8.8m/s			Any Electrical Hazards		
Type	Yes	No	Type	Yes	No	Type	Yes	No
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Structural Hazards			Load < 85% of Rated Load Capacity			Crane and all Lifting Gears Certified by 3 rd Party?		
Type	Yes	No	Type	Yes	No	Type	Yes	No
	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
Ground Firm & Level			Any Underground Hazards			Crane and Lifting Gears Inspection Sticker not Expired?		
Type	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Type	Yes <input type="checkbox"/>	No <input type="checkbox"/>	Type	Yes <input type="checkbox"/>	No <input type="checkbox"/>
Responsibilities			<ol style="list-style-type: none"> ALL CRANES MUST HAVE A VALID IN DATE TPC (SASO APPROVED AUTHORITY BEFORE OPERATIONS BEGIN WHICH IS NO OLDER THAN 3 MONTHS. CRANE INSPECTION CHECKLIST MUST BE COMPLETED BEFORE LIFTING COMMENCES. LIFTING EQUIPMENT MUST BE CHECKED, CERTIFIED AND COLOUR CODED BEFORE USE. LIFT SPECIFIC STARRT CARD BRIEFING TO BE CONDUCTED BY ALL INVOLVED IN THE LIFT 					
APPOINTED COMPETENT PERSON – prepares the lifting permit.								
TASK SUPERVISOR - receives lift plan and checks the crane(s) are configured as per lifting plan.								
LOGISTICS MANAGER OR HIS COMPETENT DESIGNATED PERSON - are involved in the approval of internal basic / repetitive lifting permit.								
Rigger, Lifting Supervisor, and Crane Operator sign on to the lifting permit.								
RIGGER 1 / 2 / 3			COMPETENT PERSON			CRANE OPERATOR		
Name & Signature:			Name & Signature:			Name & Signature:		
Logistics Manager or Competent Designated Person								
Name:								
Signature:								
Date:								

Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				

Critical / High Risk Activity Inspection Checklist (By DGCL)



Critical/ High Risk Activity Inspection Checklist







Critical/High-Risk Activities Details		
Program Name:		Date & Time:
Project Name:		Delivery Partner Name:
Activity:		MSRA Title:
Attendees		
Name	Designation	Company
1.		
2.		
3.		
4.		
5.		
H&S Requirements		Yes/No/NA
1	Are the Control Measures outlined in the MSRA being followed?	
2	Are details of specific Competencies and Training required to undertake the activity/work available?	
3	Are project mandatory and task-specific Personnel Protective Equipment being used and worn?	
4	Are MSDS being addressed and followed for the Hazardous Chemicals being used for the activity?	
5	Are all plant/ Equipment/ lifting tackles being used have valid 3rd Party Certification ?	
6	Are all plant and equipment Inspection and Maintenance records available?	
7	Are all Permits, DAB & checklists required for the activity/work being implemented?	
8	Are supervisors and workers performing the tasks being Safety Inducted ?	
9	Can an employee tell you what was discussed in the DAB ?	
Employees observed during activity (Name and Induction number)		
1.	2.	
3.	4.	
Findings		

****DAB: Daily Activity Brief**

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Information Classification: Internal

Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				

Daily Activity Brief Form / STARTR Card Form – By DGCL



Daily Activity Brief Form







Project Name:		Work Area	
Date / Time		MSRA Number	
PTW Ref		Name of person conducting Brief	

Additional PPE Required					
       					
Additional Hazards Identified for the Activity					
       					
Precautions for Additional Hazards					
					
COSHH Items to be used					
<table border="0"> <tr> <th>Physical Hazards</th> <th>Health Hazards</th> </tr> <tr> <td>      </td> <td>     </td> </tr> </table>		Physical Hazards	Health Hazards	    	   
Physical Hazards	Health Hazards				
    	   				
Plant/ Equipment/Tools to be used					
	<ul style="list-style-type: none"> 				
People at risk					
Employees					
DGCL					
Visitors					

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Information Classification: Internal

Client:		SAFE LIFTING PLAN			Contractor:	
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)		
	Contract No.	DD-2022-363.2	PMC:			
	Doc. No.	TBA	CSC:			
						



Daily Activity Brief Form







Details of Employees Performing the Activity					
Sr. No	Name	Trade	Company	Induction No	Signature
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					

Declaration that the employee supervising the works confirms that all Procedures and Hazards of the Activity are **CLEAR, COMMUNICATED, CONTROLLED and CHECKED.**

Name	Notes:
Signature	

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Information Classification: Internal

Client:	SAFE LIFTING PLAN				Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)	
	Contract No.	DD-2022-363.2	PMC:		
	Doc. No.	TBA	CSC:		
					

Lifting Equipment (Mobile Crane / Boom Truck) Inspection Checklist (Internal)

LIFTING OPERATION SAFETY MONTHLY LIFTING EQUIPMENT (CRANE / BOOM TRUCK) INSPECTION (2b) Excavation of Car Park A, B, and Related Works	
--	---

NOTE:
Do not "tick". Write OK, or use the number of the specific deviation given in the legend. If the equipment is defective it must be tagged - "Defective" and must be reported to the person responsible for the repair of the equipment. If the equipment is beyond repair it must be destroyed and discarded. New equipment to replace the discarded equipment must be obtained to discourage the use of make shift equipment

LEGEND:





1. Defects in structure. 2. No safe load indicators displayed. 3. Braking system on load not in safe working condition. 5. No load limiting devices fitted/not working. 6. No limiting device on highest safe travel limit. 7. No emergency switch on floor. 8. Pulley/ shaft worn. 9. Drum and winch worn.	10. Check that rope on drum has at least 3 full turns. 11. No machine guards fitted. 12. No signalling device. 13. No safe accessibility. 14. Lubrication necessary. 15. No notice – re: High tension wires displayed. 16. No notice stating maximum load displayed. 17. No Fire Extiguisher. 18. No EOM - Operational & Maintenance Manual .
--	---

Manufacturer's Serial No.	DEPARTMENT	LOCATION	MONTH (YEAR: 2024)											
			J	F	M	A	M	J	J	A	S	O	N	D


DATE INSPECTED:			
INSPECTOR'S NAME:		SIGNATURE:	
AUDIT/SPOT CHECK:		SIGNATURE:	





COMMENTS

ID NO	COMMENTS LOG

Client: 	SAFE LIFTING PLAN				Contractor: 
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)	
	Contract No.	DD-2022-363.2	PMC:		
	Doc. No.	TBA	CSC:		

Forklift Inspection Checklist (Internal)

LIFTING OPERATION SAFETY DAILY FORKLIFT / TELEHANDLER INSPECTION (2C) Excavation of Car Park A, B, and Related Works								
OPERATOR NAME:	REGISTER NO. :	DATE FROM:	DATE TO:					
	TIME IN:							
	TIME OUT:							
1. All the items under each step in the "ITEMS TO BE CHECKED" column must be checked by the driver on a daily basis. 2. Indicate in the column under each day "OK" or "DEF". If any of the items are defective the vehicle MAY NOT leave the premises until the defect is corrected, and checklist is signed by the Transport Manager or Supervisor.								
ITEMS TO BE CHECKED	SUN	MON	TUES	WED	THR	FRI	SAT	COMMENT
1. Lubrication adequate?								
2. Switches in good working order?								
3. Gauges in good working order?								
4. Brakes in good working order?								
5. Hoisting mechanisms in good working order?								
6. Horn in good working order?								
7. Lights in good working order?								
8. Pedal rubbers in good condition?								
9. Wheel nuts and bolts secure?								
10. Wheel rims and tyres in good condition?								
11. All pipes in good condition?								
12. Oil and coolant – levels and leaks?								
13. Fanbelt/s in good condition and correct tension?								
14. Caps (i.e. oil, petrol, etc.) secure?								
15. Battery mounting secure?								
16. Control levers in good working order?								
17. Compartment/seat in good condition?								
18. Safety belt in good condition?								
19. Hydraulic oil level correct?								
20. Gas shut-off valve operational/hose not damaged?								
21. Gas tank mountings secure?								
22. Reverse siren								
23. Beacon or strobe warning light								
24. Fire Extinguisher fully charge and in good condition?								
FIT FOR USE								SPOT CHECK DATE: NAME:
DATE OF INSPECTION								
OPERATOR SIGNATURE								
SUPERVISOR or MANAGER NAME								

Client:	SAFE LIFTING PLAN				Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)	
	Contract No.	DD-2022-363.2	PMC:		
	Doc. No.	TBA	CSC:		
					

Fiber Rope / Web Sling Inspection Checklist (Internal)

LIFTING OPERATION SAFETY MONTHLY FIBER ROPE / WEB SLING INSPECTION (2di) Excavation of Car Park A, B, and Related Works	
---	---

FIBER ROPE/ WEB SLING INSPECTION



Note: Do not "tick". Write Ok or use the code of the specific deviation in the legend.. If the sling is defective, it must be tagged "Rejected" and must be reported to the person responsible for action. If the sling is beyond repair it must be destroyed and discarded.

LEGEND **OK** – Acceptable, **NOT** - Not Acceptable, **ELM**– Equipment Lost of Missing, **REP** – Equipment Being Repaired, **N/A** – Not Applicable

RAISE THE ISSUES THROUGH CORRECTION REPORT (BEFORE & AFTER PHOTO) FOR ACTION TAKEN

S.N	ID NO	Department/ Location	ROPE SLING					HOOKS				SHACKLES			Accepted / Rejected
			Free from wear, abrasion, mechanical damage	Free from broken, cut, powdered fibers	Free from displaced years/strands	Condition of strands safe	Free from discoloration	Free from exposure to corrosives, Heat	Spread in throat opening	Cracked, nicked, chafed	Wear on eye, clevis, saddle, Load pin	Side bending	General Condition	Wear on pin/threads	
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

ID No (Fault)	Comments

Inspector Name:





Signature:

Date:

Logistics Manager Name:

Signature:

Date:

Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				

Steel Wire Rope Sling Inspection Checklist (Internal)

LIFTING OPERATION SAFETY MONTHLY STEEL WIRE ROPE SLING INSPECTION (2dii) Excavation of Car Park A, B, and Related Works	
---	---

WIRE ROPE SLING INSPECTION



Note: Do not "tick". Write Ok or use the code of the specific deviation in the legend.. If the wire rope is defective, it must be tagged "Rejected" and must be reported to the person responsible for action. If the wire rope is beyond repair it must be destroyed and discarded.

LEGEND **OK** – Acceptable, **NOT** - Not Acceptable, **ELM**– Equipment Lost or Missing, **REP** – Equipment Being Repaired, **N/A** – Not Applicable

RAISE THE ISSUES THROUGH CORRECTION REPORT (BEFORE & AFTER PHOTO) FOR ACTION TAKEN

S.N	ID NO	Department/ Location	WIRE ROPE					HOOKS					SHACKLES			Accepted / Rejected
			Wear / Corrosion	Kinks / deforming	Fatigue: Square breaks	Drying out of lubrication	Fitting splices, Securing of fitness	Mechanical Damage	Spread in throat opening	Cracked, nicked, chaffed	Wear on eye, clevis, saddle Load pin	Side bending	General Condition	Wear on pin/threads	Maximum Mass Load	
1																
2																
3																
4																
5																
6																
7																
8																
9																
10																
11																
12																
13																
14																
15																

ID No (Fault)	Comments

Inspector Name:





Signature:

Date:

Logistics Manager Name:

Signature:

Date:

Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				

Chain, Hooks, Shackles Inspection Checklist (Internal)

LIFTING OPERATION SAFETY MONTHLY CHAIN, HOOKS, SHACKLES INSPECTION (2diii) Excavation of Car Park A, B, and Related Works	
---	---

CHAIN SLING INSPECTION



Note: Do not "tick". Write Ok or use the code of the specific deviation in the legend.. If the chain, hook, shackles is defective, it must be tagged "Rejected" and must be reported to the person responsible for action. If the equipment is beyond repair it must be destroyed and discarded.

LEGEND		OK – Acceptable, NOT - Not Acceptable, ELM– Equipment Lost of Missing, REP – Equipment Being Repaired, N/A – Not Applicable													
RAISE THE ISSUES THROUGH CORRECTION REPORT (BEFORE & AFTER PHOTO) FOR ACTION TAKEN															
S.N	ID NO	Department/ Location	CHAIN LINKS					HOOKS				SHACKLES			Accepted / Rejected
			Twisted, stretched, bent	Nicked, gouged, cracked	Inter link and side barrel wear	Distorted/Damaged master links	Distorted / Damaged coupling links	Distorted / Damaged attachments	Spread in throat opening	Cracked, nicked, chafed	Wear on eye, clevis, saddle, Load pin	Side bending	General Condition	Wear on pin/threads	
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															

ID No (Fault)	Comments

Inspector Name:





Signature:

Date:





Logistics Manager Name:





Signature:

Date:

Client: 	SAFE LIFTING PLAN				Contractor: 
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)	
	Contract No.	DD-2022-363.2	PMC:	 PARSONS	
	Doc. No.	TBA	CSC:	 AECOM	

Appendix B: Color Code Table

Binyah Monthly Colour Code Chart (Plant / Equipment / Tools / Lifting Equipment & Gera)	
Month	Colour Code
January / February / March	
April / May / June	
July / August / September	
October / November / December	

Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				

Appendix C: Other Applicable Permits

Jersey Barriers - DGCL Permit to Work Form (External)



Permit To Work Form – Jersey Barriers

Doc. Ref. No:

*Note: This form must be completed by the responsible Manager/Supervisor/Foreman/Site Engineer prior to any placement of jersey barriers. It is only applicable for one activity in one location.

Project Name:		Work Area:	
Date:		MSRA Number:	
Any other documents / Ref:			
Activity:			
Valid From (time):		Valid to (time):	

PLANNING

Requirements		Specify Controls / Comments Below:
Has an alternative to jersey barrier(s) been considered for the area?	Y / N	
Is there sufficient space to ensure distance of at least 2m from any excavation edge can be maintained?	Y / N	
If <2m from excavation edge, are other means to ensure secure from falling, i.e. anchoring?	Y / N	
Is ground condition level and compacted / suitable for placement of barriers?	Y / N	
Competent Supervision in place for the activity?	Y / N	

Installation





Other Issues		Specify Controls / Comments Below:
Traffic Management (i.e. no gaps between barriers required)?	Y / N	
Public Protection / Work area barricaded?	Y / N	
Jersey Barriers in good condition?	Y / N	
Lifting Operations controlled (lift permit in place)?	Y / N	
Lighting / reflective strips required and provided?	Y / N	
Is appropriate lifting methodology adopted (as per MSRA)?	Y / N	
Other Considerations?	Y / N	

AUTHORISATION / ACCEPTANCE

Permit Issuer:		Date:		Signed:	
Permit Receiver:		Date:		Signed:	
Verified by Contractor HSE:		Date:		Signed:	
CSC Review and Verified:		Date:		Signed:	

* Note – If CSC Review and Verified sign-off is not complete, the activity MUST NOT commence.

Revision 00	Permit to Work – Jersey barriers	Date of Issue:	Feb 2024	Page No(s)	1 of 1
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Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				

Night Work Permit & Checklist [External DGCL]



NIGHT WORK REQUEST FORM Form

DG480 - Excavation of Car Park A, Car Park B, and related works







1. Type of Night Work	
EXTENDED OVER-TIME <input type="checkbox"/>	NIGHT WORK <input type="checkbox"/>
2. Identifying Information	
Date: _____ Working Hours: _____ From: _____ To: _____	
CONSULTANT: _____ CONTRACTOR: _____	
Sub-Contractor: _____ Section: _____	
Area Location: _____	
Job Description: _____	
Equipment Required: _____	

3. Declaration	
Manpower Total: _____ Duty Const. Supervisor in Charge: _____	
Tel. No./Mobile No.: _____	
Equipment Total: _____ Duty Safety Supervisor in Charge: _____	
Tel. No./Mobile No.: _____	
<p>IMPORTANT: By signature hereon, CONSULTANT and Contractor hereby confirms that this night work is being applied for and conducted within the Saudi Arabia Government legislated allowable working hours per week AND this work will be monitored by Contractor Project Manager, who is responsible for ensuring compliance with the Saudi Laws and DGCL Night & Holiday Work Control Procedure.</p> <p>All extra supervision costs incurred by the Employer, the Construction Manager, the Supervision Consultant and/or Engineer's Representative shall be deducted from the Contractor's account.</p>	
Requested by:	Approved By
CONTRACTOR PM/PD	CONSULTANT PD/CRE
4. Attachments	
Night Work Checklist: <input type="checkbox"/> Method Statement/JSA: <input type="checkbox"/> Toolbox Talk: <input type="checkbox"/>	
5. Approval	
CSC	
Approved by:	
Project Director/His delegate	CSC Project HSE
DGCL Project Management Comments:	

Concurred by:	
DGCL Project Director/His delegate	DGCL Project HSE

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Information Classification: Internal

Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	 PARSONS
	Doc. No.	TBA	CSC:	 AECOM
				 BINYAH



NIGHT WORK CHECKLIST



No.	Description	Yes	No	N/A
1	General			
a)	Is there a designated Consultant and CONTRACTOR Construction Supervisor or above representative on duty during night work? Insert name above			
b)	Is there a Consultant and CONTRACTOR Safety Supervisor at the work site who is responsible for ensuring that all HSE precautions and requirements are met? Insert name above			
c)	Is a toolbox talk being conducted before starting work at night?			
d)	Is there both communication & transport available in case of any emergency?			
e)	Are there emergency contact numbers & evacuation routes posted at the site?			
f)	Is there a qualified Nurse on duty and with an ambulance available?			
h)	Is there a hot meal served to workers at dinner time, and in an appropriate location in line with DGCL requirements?			
g)	Are emergency procedures, i.e., evacuation & emergency numbers, discussed with workers on the first night of work in the first toolbox-talk, before work commences?			
i)	Are there adequate welfare facilities available, i.e., toilets, rest shelters, and water?			
2	Lighting			
a)	Are the work areas properly marked for night work, i.e., excavations barricaded with flashing lights?			
b)	Is there adequate lighting in work areas of at least 85lux? Test result to be recorded here.....			
c)	Are there traffic controllers/flagmen at the site with lighted batons at the work site?			
	Adequate Supervision			

CONSULTANT Construction Supervisor in charge – Name: _____

CONSULTANT HSE Supervisor – Name: _____





CONTRACTOR Construction Supervisor in charge – Name: _____

CONTRACTOR HSE Supervisor – Name: _____

Remarks

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Information Classification: Internal

Client:	SAFE LIFTING PLAN			Contractor:
	Project	Excavation Of Car Park 'A' And Car Park 'B' And Related Works	Document Type	PLAN (PLN)
	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				

Holiday Work Permit & Checklist [External DGCL]



HOLIDAY WORK REQUEST FORM Form

DG480 - Excavation of Car Park A, Car Park B, and related works







1. TYPE OF HOLIDAY WORK	
FRIDAY WORK <input type="checkbox"/>	OTHER HOLIDAY <input type="checkbox"/>
2. Identifying Information	
Date: _____ Working Hours: _____ From: _____ To: _____	
CONSULTANT: _____ CONTRACTOR: _____	
Sub-Contractor: _____ Section: _____	
Area Location: _____	
Job Description: _____	
Required Equipment: _____	
3. DECLARATION	
Manpower Total: _____	Duty Const. Supervisor in Charge: _____
	Tel. No./Mobile No.: _____
Equipment Total: _____	Duty Safety Supervisor in Charge: _____
	Tel. No./Mobile No.: _____
<p>IMPORTANT: By signature hereon, CONSULTANT AND Contractor hereby confirms that this work is being applied for and conducted within the Saudi Arabia Government legislated allowable working hours per week AND this work will be monitored by Contractor Project Manager, who is responsible for ensuring compliance with the Saudi Laws and DGCL Night & Holiday Work Control Procedure.</p> <p>All extra supervision costs incurred by the Employer, the Construction Manager, the Supervision Consultant and/or Engineer's Representative shall be deducted from the Contractor's account.</p>	
Requested by: Sign & Stamp	Approved by:
4. Attachments	
Holiday Work Checklist: <input type="checkbox"/> Manpower List: <input type="checkbox"/> Night Work Request/ (If Applicable): <input type="checkbox"/>	
5. Approval	
DGCL Project Management Comments: _____	
Approved by:	Concurred by:
_____	_____
DGCL Project Director /his delegate	DGCL OHS
Concurred and recorded by:	

DGCL Logistic Manager/Coordinator	

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	Contract No.	DD-2022-363.2	PMC:	
	Doc. No.	TBA	CSC:	
				



HOLIDAY WORK CHECKLIST



No.	Description	Yes	No	N/A
1	General			
a)	Is there a designated CONSULTANT AND CONTRACTOR Construction Supervisor or above representative on duty during work? Insert name Below			
b)	Is there a CONSULTANT AND CONTRACTOR Safety Supervisor at the work site who is responsible for ensuring that all HSE precautions and requirements are met? Insert name Below			
c)	Is a toolbox talk being conducted before starting work?			
d)	Is there both communication & transport available in case of any emergency?			
e)	Are there emergency contact numbers & evacuation routes posted at the site?			
f)	Is there a qualified nurse on duty and with an ambulance available?			
h)	Is there transport available to take workers to Camp Mess Hall for lunch?			
g)	Are there adequate welfare facilities available, i.e., toilette, rest shelter, water?			

IMPORTANT NOTE:

Contractor & Sub Contractor personnel who are found violating the holiday work control procedure will face stringent company disciplinary action.

CONSULTANT Construction Supervisor in charge – Name: _____
 CONSULTANT HSE Supervisor – Name: _____
 CONTRACTOR Construction Supervisor in charge – Name: _____
 CONTRACTOR HSE Supervisor – Name: _____





REMARKS

List of personnel

No.	Name	ID Number	Profession
1			
2			
3			
..			
..			
..			

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	Contract No.	DD-2022-363.2	PMC:	 PARSONS	
	Doc. No.	TBA	CSC:	 AECOM	

Appendix D: Reference Documentation





DGCL Reference Documents

- OH&S Policy Statement
- DD-SWD-SW-SWD-000-000-DGD-MAN-HS-000001 Revision 06 Construction Occupational Health and Safety Manual
- OH&S Management Procedures:

Document Reference	OH&S Minimum Requirements Title
DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000001 Revision 03	Method Statement/ Risk Assessment OH&S Procedures
DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000002 Revision 03	Night& Holidays Work OH&S Procedure
DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000007 Revision 03	Incident Management & Notification Procedure
DD-SWD-SW-SWD-000-000-DGD-PNP-HS-000010	Emergency and Disaster Management Framework

- OH&S Minimum Requirements

Document Reference	OH&S Minimum Requirements Title
DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000001	Occupational Health and Safety Charter
02- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000002-GSSR	General Site Safety Rules Minimum Requirements
03- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000003-COMP	Competence and Training Minimum Requirements
04- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000004-AEBS	Access, Egress, Barricades & Stairs Minimum Requirements
06- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000006-CGC	Compressed Gas Cylinders Minimum Requirements
07- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000007-CONC	Concrete Work Minimum Requirements
08- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000008-CS	Confined Space Minimum Requirements
09- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000009-ELEC	Electrical Safety Minimum Requirements
10- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000010-LOTO	Lock Out / Tag Out [LOTO] Minimum Requirements
18- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000018-P&M	Plant and Machinery Minimum Requirements
19- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000019-T&E	Tools and Equipment Minimum Requirements
20- DD-SWD-SW-SWD-000-000-DGD-MNR-HS-000020-HAZMAT	Hazardous Materials Minimum Requirements

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	Contract No.	DD-2022-363.2	PMC:	 PARSONS	
	Doc. No.	TBA	CSC:	 AECOM	

5. Forms & Checklist

REV	Document Reference	OH&S Minimum Requirements Title
03	DD-SWD-SW-SWD-000-000-DGD-CKL-HS-000001 Rev 03	Accommodation camp audit & inspection Checklist
03	DD-SWD-SW-SWD-000-000-DGD-FRM-HS-000006 Rev 03	Emergency Management Team
03	DD-SWD-SW-SWD-000-000-DGD-FRM-HS-000007 Rev 03	Emergency Drill Scenario Form
03	D-SWD-SW-SWD-000-000-DGD-FRM-HS-000008 Rev 03	Emergency Drill Report Form
03	DD-SWD-SW-SWD-000-000-DGD-FRM-HS-000009 Rev 03	Emergency Drill Evaluation Form
03	DD-SWD-SW-SWD-000-000-DGD-FRM-HS-000010 Rev 03	Emergency Contacts' Details Form
03	DD-SWD-SW-SWD-000-000-DGD-RPT-HS-000005 Rev 03	Initial Notification Report
03	DD-SWD-SW-SWD-000-000-DGD-RPT-HS-000006 Rev 03	Incident Preliminary Report
03	DD-SWD-SW-SWD-000-000-DGD-RPT-HS-000007 Rev 03	Incident Investigation Report

Others Applicable Procedures & Standards

- Binyah HSE Policy
- Approved Occupational Health & Safety Plan
- Relevant approved MSRAs